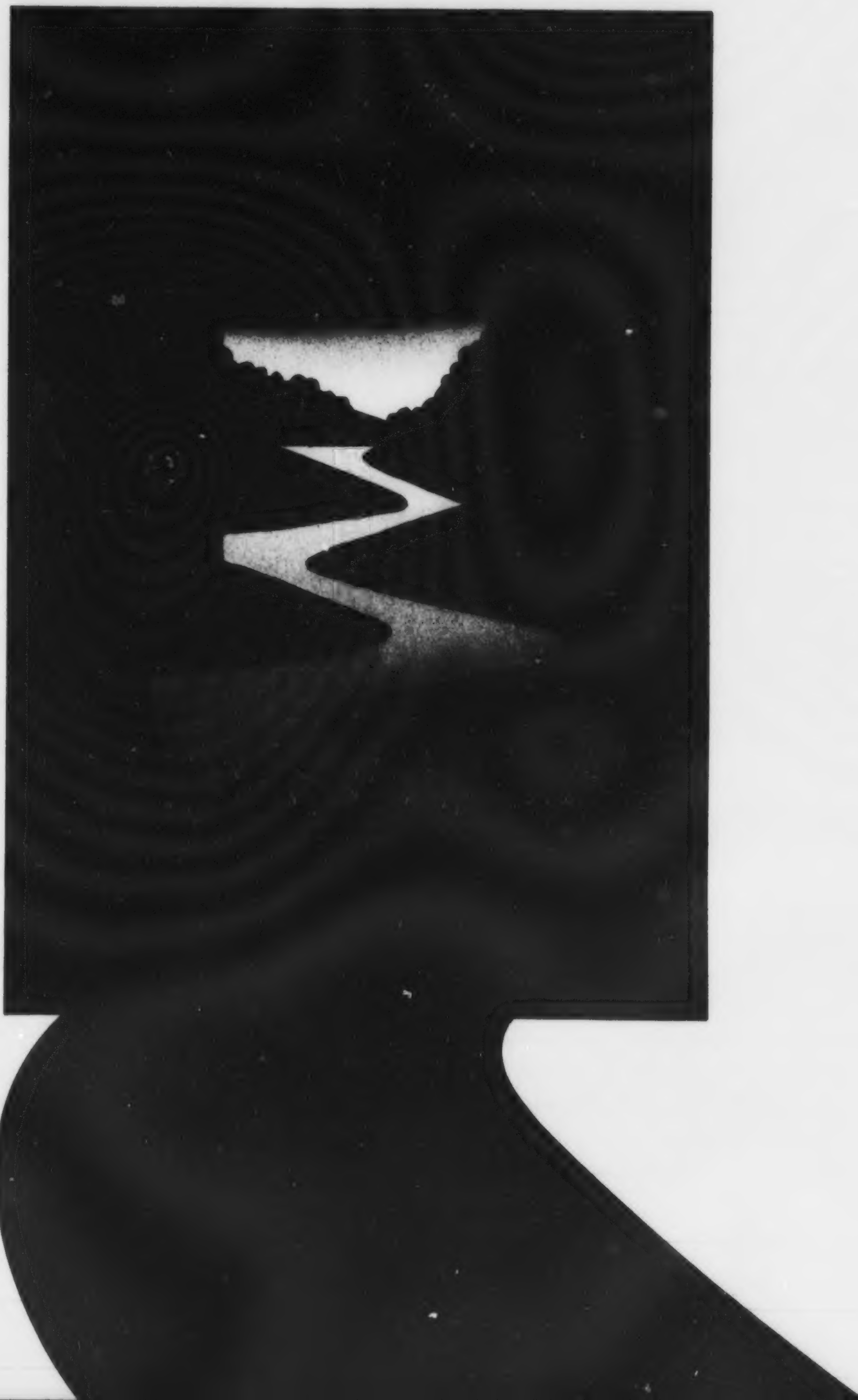
JOB FUTURES

AN OCCUPATIONAL OUTLOOK FOR THE '90s

QUEBEC



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JOB FUTURES - QUEBEC
AN OCCUPATIONAL OUTLOOK FOR THE 1990s
QUEBEC

VOLUME II:
OCCUPATIONAL OUTLOOKS
2nd EDITION

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PREFACE

Technological progress greatly affects both the way in which the duties and skills associated with various occupations are modified and the nature and volume of the labour demand. The acceleration of technological change over the past few years has made it more difficult for individuals to choose from among all the different career opportunities available to them. Moreover, these changes have brought to the fore the adaptation problems faced by a labour force with outdated skills and has given rise to more pressing concerns on the part of companies about human resources planning.

In order to respond to the growing need for information on the anticipated employment growth in the various occupations, the Strategic Planning Branch of EIC - Quebec is pleased to present the second edition of *Job Futures - Quebec*.

This publication comprises two volumes. The first presents statistics on school graduates and describes their situation on the labour market, particularly with respect to placement rate, type of job, salary, and medium- and long-term employment outlook.

Unlike the previous version, this edition covers all the vocational training sectors, namely the secondary and college vocational sectors and the three university levels. More than 130 fields of training from these three sectors are analyzed.

The second volume deals with the expected employment growth in the labour market by occupation for the 1990-2000 forecast period and in the labour supply for the same period. Volume II also gives a detailed account of the conditions for practising these occupations, the technological, technical and organizational changes affecting them, complementary training leading to their practice and the skills and aptitudes needed by graduates to compete effectively on the labour market.

It is my hope that you will find this publication a useful source of information that will assist you in your decision-making. Finally, any comments sent to us on the content or format of the document will be taken into account in the next edition.

J. Leblanc

Jacques Leblanc
Director
Strategic Planning Branch
Employment and Immigration Canada
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INTRODUCTION

Choosing an occupation or changing careers gives rise to a number of questions, particularly in today's economic context. Will there be enough job openings during the 1990s in the chosen occupation? Will there be a lot of competition? What occupations can I get into with my education and acquired skills? What will employers' needs be? What technological changes will affect occupations? What impact will these changes have on the skills in demand and on the tasks? What consequences will they have on the training required? **JOB FUTURES QUEBEC, Volume II, "OCCUPATIONS"** will help in finding answers to these questions.

JOB FUTURES QUEBEC, Volume II, contains valuable information to help you make a career choice and to identify the training needed to attain your goals. **JOB FUTURES QUEBEC II** provides job outlooks up to the year 2000 for nearly 200 different occupations. The forecast period is from 1990 to 2000, with 1989 as the base year. For each of these occupations, **JOB FUTURES II** provides forecasts for the number of job openings on the labour market in line with the expected trends in the Quebec economy. Forecasts are also given of the number of unemployed workers and graduates at three educational levels (secondary, community college and university). Each occupation is analysed according to projected labour market trends, highlighting the skills that will improve the chances for employment, the impact of technological change on the tasks performed and the main aptitudes sought on the labour market. Information on education, salaries and industrial sectors providing employment round out the analysis and provide a global picture of trends in the occupation.

JOB FUTURES QUEBEC II helps young people in school, people who are seeking a career change and those who are returning to the labour market to make career choices while developing realistic expectations about the job market.

JOB FUTURES QUEBEC, VOLUME II: OCCUPATIONS

JOB FUTURES II is organized by occupation. Each occupation is identified according to a title and a code (1), for example, bookkeeper and accounting clerk "4131". The code always has four digits, e.g. 4131, 1131, etc. The first two digits represent the major occupational group to which the occupation belongs, and the next two digits designate the specific occupation. For example, 41 corresponds to administrative personnel and related workers, and thus 4131 designates the positions of bookkeeper and accounting clerk while 4111 corresponds to secretaries. **JOB FUTURES QUEBEC II** covers nearly 200 of these 4-digit occupational groups. Each of these 4-digit groups includes a certain number of occupations. Hence, the bookkeepers' and accounting clerks' group includes payroll clerks, accountant assistants, cost clerks, etc. In **JOB FUTURES QUEBEC II**, under each of the occupational titles with a 4-digit code, a list of the main occupations in that group is given. The statistics generally apply to the overall occupational group designated in the title. However, the data for an overall group may not apply to each of the member occupations. Thus, a comment applying to restorers of works of art may not necessarily apply to restorers of paintings, even though both occupations are part of the same occupational group of library, museum and archive technicians. In **JOB FUTURES QUEBEC II**, a qualitative analysis of numerous data sources complements the statistical analysis by occupational group. This approach makes it possible to comment on particular occupations within the group.

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(1) **NOTE:** The titles and code numbers are those used by Statistics Canada in the Census and the Labour Force Survey. They come from the Standard Occupational Classification which closely resembles the Canadian Classification and Dictionary of Occupations (CCDO), with some variations in occupational groupings. Users of the CCDO will feel at home with this classification.

DEFINITIONS :

THIS OCCUPATION OR THIS OCCUPATIONAL GROUP: Refers to the occupational group(s) indicated at the top of the page.

OCCUPATIONS TAKEN AS A WHOLE: All the occupations on the labour market, including those that are not included in JOB FUTURES QUEBEC. This section makes it possible to compare individual occupations to the average for occupations taken as a whole.

STATE OF THE LABOUR MARKET: Refers to the number of projected job openings for this occupational group during the 1990s up to the year 2000 and the number of persons who should be able to find jobs in this occupational group.

JOB OPENINGS: Workers are hired to fill new positions and openings due to attrition. This category gives the total number of job openings forecast for each occupational group, between 1989 and the year 2000. It includes jobs created as a result of economic growth and attrition. It does not reflect the number of positions left vacant because of persons moving to another occupational group (occupational mobility).

NEW JOB OPENINGS: The total number of jobs created between 1989 and the year 2000. This number corresponds to projected job openings due to economic growth.

JOBS IN 1989: Refers to the number of persons practising a particular occupation in 1989.

JOBS IN THE YEAR 2000: Refers to the forecast number of jobs that will be available in the year 2000. This number includes jobs created as a result of economic growth as well as existing jobs.

CHANGES 1989-2000: The total number of jobs created between 1989 and the year 2000. It is calculated by subtracting the number of jobs in 1989 from the number of jobs forecast for the year 2000. This number corresponds to job openings expected as a result of economic growth.

JOB OPENINGS DUE TO ATTRITION: The number of job openings resulting from attrition. This information does not take into account persons who leave the occupation to practise another. The terms replacement needs and attrition are considered equivalents.

TOTAL JOB OPENINGS 1989-2000: This total corresponds to the sum of new job openings and openings due to attrition.

LABOUR SUPPLY: These data correspond to the number of persons who should be entering a given occupation. It includes the number of unemployed persons in 1989 and the projected number of graduates at the three educational levels from 1989 to the year 2000. They do not include the return to the labour market of persons who had left, persons who left their occupation for this particular occupation (occuational mobility), persons from other countries or regions outside Quebec (immigration) or persons in the military sector.

ESTIMATED UNEMPLOYMENT IN 1989: These estimates apply to the number of unemployed persons in the occupation. Our hypothesis is that these unemployed persons should all, between 1989 and the end of the forecast period, return to the labour market in this same occupation.

SECONDARY SCHOOL, COMMUNITY COLLEGE AND UNIVERSITY GRADUATES 1989-2000: Refers to the number of graduates entering the labour market in this particular occupation. This number includes graduates of various study programs who are likely to find a job in the occupation. The graduates are divided into secondary school, community college and university educational levels. In the statistical tables the figures are replaced by --- when the data are either unavailable, unreliable for statistical reasons or if not enough graduates are expected to take up the occupation.

OTHER IMPORTANT REQUIREMENTS: A comment is included when a determining factor affects the occupation.

MAIN CHARACTERISTICS (%): This heading provides data on distribution by sex, age and job status. The data are drawn from the 1981 and 1986 censuses. The results are given as percentages of the total number of workers in the occupation in 1981 or in 1986.

ACCORDING TO SEX: Statistics from the 1981 and 1986 censuses give the distribution of persons in the occupation by sex.

ACCORDING TO AGE: Statistics are drawn from the 1981 census. Data from the 1986 census were not available to us at the time this volume was being prepared. The results are expressed as a percentage of the total number of workers in the occupation in 1981.

FULL-TIME, PART-TIME: The number of persons who, in the 1981 and 1986 censuses stated they were working either full time or part time in the occupational group. Results are expressed as a percentage of the total number of workers in the occupation.

MAIN SECTORS PROVIDING EMPLOYMENT (1986 %): These are the industrial sectors employing the largest number of persons in a particular occupational group. Each of these sectors is then divided into the sub-sectors that are most representative of the employment concentration of the occupational group. The percentages express the proportion of jobs in a sector or subsector at the time of the 1986 census. The overall industrial sectors include some 60 sectors of activity such as agriculture, mining, manufacturing, trade, administration, etc.

LABOUR MARKET TRENDS: This heading deals with labour market conditions for the occupational group and factors that may affect these conditions. The forecast employment growth rate is compared to that of the occupations taken as a whole. An average growth rate of 1.28% is expected between now and the year 2000. The analysis also highlights technological factors and their impact on the number of workers and on their tasks. Demographic, organizational and other factors affecting the occupation are also taken into consideration. The analysis focuses in particular on the skills that are in demand on the market and the aptitudes to develop that could become assets for those seeking to enter the occupation.

EDUCATION AND SKILLS: This heading gives an overview of the training normally required to enter the occupation.

SALARY: This heading contains information on salaries. The data come mainly from the 1986 census. The figures represent the average salary earned by workers in the occupation who were working full time.

LINKS WITH JOB FUTURES QUEBEC - VOLUME I : "FIELDS OF STUDY"

This volume was designed to be used in conjunction with Volume I. **JOB FUTURES QUEBEC I** gives the situation on the labour market of graduates of occupational training disciplines, one or two years after their graduation, for each educational level (secondary vocational, community college vocational and university). It provides information on the occupations in which the graduates of a particular discipline found jobs, the proportion of these graduates who did not find jobs, etc. From a given field of training in **JOB FUTURES I**, the occupations in which the graduates found jobs can be identified. In this volume the data for the occupations represent a slice in time and indicate the situation in previous years. Then readers can consult Volume II to get an idea of the outlook for these occupations.

Volume I includes the placement outlook for graduates by field of training. An occupation may be found in several fields of training. It is interesting to look up the hiring outlook for this occupation in **JOB FUTURES II** and then to compare the job prospects in Volume I for graduates taken as a whole in the fields of study concerned by this occupation.

DETAILED LIST BY OCCUPATIONAL GROUPS

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8,400	11,390	2,990	2,630	5,620

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
160	-	25	390	575

OTHER IMPORTANT REQUIREMENTS

Canadian citizenship.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	17.6	19.1	Under 25 years	-	-	Full-time	-	98.2
Males	82.4	80.9	Over 54 years	-	-	Part-time	-	1.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (100)
- Federal Service (42)
- Provincial Service (34)
- Local Gov't Service (22)

4. LABOUR MARKET TRENDS

Employment in this occupational group should grow at a rate greater than that forecast for all occupations taken in general and for management occupations in particular. It encompasses a very wide variety of occupations, almost all of which are concentrated in government service. Despite government budget constraints, employment is likely to continue to increase under pressure from the public, whose concerns about health and safety are growing. According to estimates, between now and 2000, approximately 5,600 inspectors will be needed to fill positions left vacant by attrition and created by expected economic growth.

5. EDUCATION AND SKILLS

Most government inspectors and regulatory officers have a post-secondary education (a DEC or a law course or one on safety standards at a CEGEP). Both the kinds of occupations involved and the areas of training are varied. For

5. EDUCATION AND SKILLS (cont'd)

positions as building inspectors, for example, a Diploma of Collegial Studies (DEC) in civil engineering, industrial health and safety is usually required. Candidates must pass public service examinations. For positions related to safety, a DEC in prevention, civil engineering technology or industrial operations gives an advantage. For positions as animal primary products inspectors, a DEC in food technology, quality control and development or production, and an apprenticeship booklet or qualification certificate are required. For positions as health standards inspectors, a DEC in food technology or dietetics gives an advantage, while positions as fisheries inspectors require a DEC in fish products processing. For positions in meat and dairy product control and as meat and slaughterhouse inspectors, a university degree in veterinary medicine is an asset.

A secondary course in fire prevention is required for positions as fire prevention inspectors. An Attestation of College Studies in prevention technology may also provide access to these occupations. A driver's licence and membership in a union are required. Candidates must also pass a medical examination.

A DEC in transportation provides access to positions as customs officers. A university degree in administration is an asset, however. A university degree in social sciences or administration provides easier access to jobs as immigration officers. Knowledge of a foreign language, in addition to both official languages, is an important asset.

Inspectors must be willing to undergo on-the-job training including examinations and sometimes certification (e.g. public health services inspector). Government inspectors must have a good knowledge of the sector for which they are responsible, including the regulations governing operations and technologies used. For most positions candidates must be Canadian citizens.

Several of these occupations require frequent travel and variable hours or shift work.

6. SALARY

Salaries vary from one government organization (municipal, provincial, federal) to another. According to the Canadian Institute of Public Health Inspectors, salaries in Canada range from $25,000 to $33,000. According to the 1986 census, the average salary in Quebec was $31,436.

GENERAL MANAGERS AND OTHER SENIOR OFFICIALS 1130

Examples: General Sales and Advertising Manager, Managing Director, Division Manager, Executive Director, Education Chief Executive, Hospital Administrator, Finance General Manager

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
49,750	59,840	10,090	15,980	26,070

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
120	-	-	1,285	1,405

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	5.3	15.0	Under 25 years	1.3	-	Full-time	-	97.6
Males	94.7	85.0	Over 54 years	20.6	-	Part-time	-	2.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Trade (9)
Business Service (8)
Banks and Insurers (7)
Gov't Service (7)

4. LABOUR MARKET TRENDS

The growth rate of employment in these occupations should be slightly above average. There are nearly 50,000 general managers and administrators in Quebec, making up the third largest group of administrators in the province. These professionals work at a senior managerial or administrative level, almost always for a company but sometimes for themselves (approximately 6% in 1986). There is little unemployment in these occupations. Competition, however, is expected to remain strong. In addition to recent graduates and estimated unemployed, a significant supply of labour comes from job mobility. One becomes a senior manager after climbing the rungs of the occupational ladder over several years of work and experience in related technical and occupational fields. Competition will come mainly from employees already in an organization and only rarely from recent graduates. An aptitude for ongoing training favours access to senior positions. The average age in this occupation is quite high (about 45 in 1986 for Canada as a whole), and therefore competition for positions as senior managers and administrators can be expected to intensify as the labour force ages and the number of qualified, experienced candidates for such positions grows. Technological development could have an impact on demand for these occupations. Automatic data processing and robotics affect the nature of the duties to be performed and could reduce the number of management levels in organizations and as a consequence the number of general managers.

5. EDUCATION AND SKILLS

A university degree in public administration is often required for general managerial positions in education. In the health care field, a bachelor's degree in administration may provide access to general managerial positions, but a master's in public administration is desirable. People with bachelor's degrees in health care or social sciences may enrol in a master's in public administration. A bachelor's degree with an honours in finance is an asset for general managers in financial institutions. For people in sales and advertising, a university program in marketing is desirable.

Employers favour experience in an industrial field comparable with their own. Generally, a university degree, or, on occasion, a DEC in administration is required of new employees. Although not yet a necessary requirement for entry into these occupations, knowledge of management software is increasingly in demand. Familiarity with computers and ability to interpret printouts are assets. Leadership, communication skills and versatility are sought-after qualifications. Knowledge of English is desirable.

6. SALARY

According to the 1986 census, the average salary of general managers and other senior officials working full time was $49,170.

MANAGEMENT OCCUPATIONS, NATURAL SCIENCES AND ENGINEERING 1131

Examples: Manager Data Processing and Systems Analysis, Manager Engineering, Manager Life Science Program, Manager Mathematical Service

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,170	3,155	985	500	1,485

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
45	-	-	95	150

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.2	10.4	Under 25 years	3.5	-	Full-time	-	98.7
Males	95.8	89.6	Over 54 years	14.5	-	Part-time	-	1.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (14)
- Computer Services (4)
- Scientific Studies and Services (6)

Gov't Service (10)
- Federal Service (3)
- Provincial Service (4)
- Local Gov't Service (3)

Transportation and Communications (10)
- Railway Transport (2)
- Telephone (4)
- Radio Broadcasting (2)
- Telephone (2)

Manufacturing Industries (13)
- Energy Wire and Cable Industry (7)
- Aircraft Industry (2)
- Pulp and Paper (2)
- Machinery (2)

4. LABOUR MARKET TRENDS

The growth rate of employment in these occupations should be above average. Although the labour market is favourable, competition for positions could remain keen, because in addition to recent graduates and the unemployed, a significant supply of labour comes from job mobility. Most managerial positions are held by professionals who are nearing the end of their careers in scientific and technical fields, natural sciences and engineering. Job prospects for data processing and systems analysis managers and administrators are among the best in this occupational group. Two positive factors are improving trends in these occupations: the generalized use of computers in all firms, and the diversification of operations affected by computerization in any one firm (as regards management: accounting, finance, payroll and operations, and as regards production: computer-aided design

4. LABOUR MARKET TRENDS (cont'd)

and manufacturing). As management software takes hold, new functions are created within organizations. In-house user services are developed to help staff use existing software and data bases and to advise management on what to purchase. This in turn increases the demand for these professionals. The demand for administrators in engineering and architecture is related to the level of capital expenditure. Continued investment in the hydro-electric sector, a boost to road and institutional work over much of the forecast period could stimulate demand for these occupations and compensate for the slowdown in residential and commercial construction. The gradual completion of Quebec's water treatment program will mean a leveling off of demand for water treatment management positions.

5. EDUCATION AND SKILLS

Several years' experience is required before rising to these positions. New administrators enter the labour market at the junior or intermediate level before moving onto senior management occupations in the natural sciences and engineering. Employers look for new employees with a general knowledge of micro-computers, the possibilities offered by informatics, its vocabulary, basic computer programming and the principal software packages. Experience in specialized fields and technologies is in demand. Most employees in these positions have university degrees in science and technology, engineering and applied sciences, mathematics or physics.

For these management occupations, knowledge of computerized systems is an asset and knowledge of English is often required.

6. SALARY

According to the 1986 census, the average salary in Quebec of managers in the natural sciences and engineering working full time was $47,930.

MANAGEMENT OCCUPATIONS, SOCIAL SCIENCES AND RELATED FIELDS 1132

Examples: Museum Director, Social Work Director, Communeuty Center Director

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,520	2,955	435	800	1,235

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
40	-	-	180	320

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	49.9	53.5	Under 25 years	9.5	-	Full-time	97.6	95.1
Males	50.1	46.5	Over 54 years	12.3	-	Part-time	4.9	4.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (39)
- Hospitals (4)
- Other Health Care Institutions (35)

Education and Related Sciences (14)
Elem. and Sec. Schools (2)
Universities and Colleges (3)
Libraries and Museums (9)

Gov't Service (17)
- Other Federal Service (5)
- Provincial Service (7)
- Local Gov't Service (5)

4. LABOUR MARKET TRENDS

The growth rate of employment in these occupations should be slightly above average. It is difficult for recent graduates to obtain managerial positions immediately; such positions usually require several years' experience. Social services are still sensitive to government spending policy. As the Quebec population ages, increased demand for homes and residences is creating jobs in social services management. On the other hand, factors such as the completion of the CLSC network in Quebec and anticipated budget constraints are expected to reduce the growth rate of employment in these occupations.

The recent trend toward the establishment of new museums and art galleries is expected to continue over the next few years, creating job opportunities for museum and art gallery directors. Because fewer funds are available and competition for those funds among various cultural organizations is increasing, the administrative, marketing and development duties of museum and art gallery directors are taking on greater importance. Economic trends favour the hiring of administrators with experience in fundraising campaigns, marketing and finance. There is pressure to seek candidates with degrees in administration rather than professionals with experience in museums. Small

4. LABOUR MARKET TREND (cont'd)

museums look for administrators with a general background, whereas larger institutions seek specialists as well. People starting out and wanting to gain experience in this field will likely have to work part time or even on contract. In museums and art galleries, part-time work and contracting out have increased steadily over the past few years. Volunteer work is also a means of entering this labour market.

5. EDUCATION AND SKILLS

Social services directors are usually required to have a bachelor's degree in social sciences, biology or one of the administration disciplines. Museum and art gallery directors generally have to have 5 to 10 years' experience in museology, in particular as a curator with supervisory experience. A bachelor's degree, and often a higher degree, is required. Skills in project team management, marketing, fundraising campaigns, public relations, advertising, new technologies and computer languages are in demand. Library directors must have a master's degree in library and information sciences. Positions as archives directors generally require a master's degree in history. Library directors generally have to have four to six years' experience as librarians with supervision, while archives directors must have five to six years' experience as archivists or historical researcher.

In general, people who wish to become directors in social sciences must have good organization and management skills and be familiar with the activities of their organization. They must be able to communicate effectively, establish good relations with people in various milieux and assess human, financial and material resources.

6. SALARY

According to the 1986 census, the average salary of managers and administrators working full time in the social sciences in Quebec was $33,560. In 1987, the salary of librarians working for the federal government and in charge of small or medium-sized specialized libraries varied between $31,551 and $36,987; those in charge of complex, medium-sized libraries earned between $34,450 and $43,350; while chief librarians in charge of large, specialized libraries earned between $38,820 and $47,460.

ADMINISTRATORS IN TEACHING AND RELATED FIELDS 1133

Examples: Superintendent of Program, College or University Registrar

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8,020	7,220	800	1,865	1,065

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
70	-	-	1,190	1,260

OTHER IMPORTANT REQUIREMENTS

Teaching experience is necessary.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	27.1	31.4	Under 25 years	1.2	-	Full-time	98.2	98.3
Males	72.9	68.6	Over 54 years	11.8	-	Part-time	1.8	1.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (87)
- Elem. and Sec. Schools (62)
- Post-Secondary Education (University) (8)
- Universities and Colleges (17)

Gov't Service (3)
- Provincial Service (3)

4. LABOUR MARKET TRENDS

Forecasts indicate that this occupational group will face a reduction in volume of employment. The approximately 1,000 positions that will open up in this field in the labour market will result from attrition. Recent graduates from the education system do not have easy access to positions as administrators and directors, since relevant teaching experience is required. Competition among teachers for these positions is keen.

The number of administrators in education is very sensitive to demographic fluctuations. Hiring depends on the number of students enrolled, number of teaching positions and funds allotted to education by the federal and provincial governments. Enrolment in elementary schools is expected to decline between now and 2000. This will reduce the demand for elementary school administrators. At the secondary school level, the number of students should increase gradually as a result of the prior baby boom and the new vocational training policies, which extend the training period for a vocational diploma.

5. EDUCATION AND SKILLS

Most of these positions require a university degree. Positions as school principals require a professional licence or certificate. Candidates must have a teaching licence from the Department of Education and have successfully completed two years' probation to obtain a permanent teaching certificate. They must have at least eight years' teaching experience.

Oral communication skills, the ability to work as a member of a team and a capacity for organization and planning are assets.

6. SALARY

According to the 1986 census, the average salary of administrators in teaching and related fields working full time was $43,280.

ADMINISTRATORS IN MEDICINE AND HEALTH 1134

Examples: Chief Dietician, Nursing Services Director, Clinic Director, First-Aid Director

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,830	4,590	760	1,205	1,965

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
40	30	-	70	140

OTHER IMPORTANT REQUIREMENTS

These positions require several years' experience.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	44.0	51.2	Under 25 years	1.4	-	Full-time	96.8	96.0
Males	56.0	48.8	Over 54 years	14.4	-	Part-time	3.2	4.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (90)
- Hospitals (57)
- Other Health Care Institutions (26)
- Testing and Health Care Services n.e.c. (5)
- Physicians' Offices (2)

4. LABOUR MARKET TRENDS

According to forecasts, employment should grow at a slightly above average rate. Most of these positions require several years' experience. Economic slowdown generally has little effect on these occupations, but they are sensitive to government spending policy. The best job prospects are in institutions other than hospitals, including rehabilitation centres, chronic care facilities, public health institutions and social services centres. New technologies have made it possible to create new programs such as day surgery, home care and outpatient clinics. Increased demand for people to manage such services could result. If, however, the new fee policies, according to which doctors working in hospitals will be given an advantage over doctors in private practice, are implemented, the number of doctors wishing to practice in a hospital setting could increase, leading to more positions for medical and health care administrators in hospitals. As demand and costs of health care services grow, there is a growing trend toward hospitals calling on health care services management firms or administrators on contract, and this could lead to job opportunities in these firms.

4. LABOUR MARKET TRENDS (cont'd)

Technological changes have had an impact on health care, in terms of both management and medical equipment. Knowledge of centralized finance systems and computerized systems is increasingly useful to administrators.

5. EDUCATION AND SKILLS

To become a director of dietetics, a person must have a bachelor's degree in dietetics or nutrition, five years' related experience in administration and mem[illegible] in the Corporation professionnelle des diététistes du Québec. Nurses with an honours bachelor's degree or postgraduate courses in nursing sciences have a better chance of obtaining administrative and supervisory positions. The current trend is to hire people with a bachelor's or master's in nursing sciences who have taken courses in administration. A minimum of 7 to 10 years' experience in nursing is required for such positions, including 3 to 5 years in a supervisory positions such as head nurse. Candidates must also be members of the Fédération des infirmières et des infirmiers du Québec.

In general, for health care administrators, skills in labour relations, collective bargaining, and negotiating with other governmental and community institutions are valuable assets.

6. SALARY

According to the 1986 census, the average salary of health care administrators in Quebec was $42,180.

FINANCIAL MANAGEMENT OCCUPATIONS 1135

Examples: Bank Manager, Loan and Credit Manager, Financial Controller, Local Savings and Credit Union Manager, Vice-President for Finance, Treasurer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,630	18,400	2,770	2,890	5,660

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
245	-	-	400	645

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	21.0	29.8	Under 25 years	5.3	-	Full-time	48.3	98.4
Males	79.0	70.2	Over 54 years	8.4	-	Part-time	51.7	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance, Real Estate (65)
- Banks and other Deposit Accepting Institutions (54)
- Other Credit Organizations (3)
- Investment Companies (1)
- Insurers (4)
- Real Estate and Insurance Agents (3)

Gov't Service (4)
- Other Federal Service (1)
- Provincial Service (1)
- Local Gov't Service (2)

Business Services (1)
- Management Consulting Services (1)

4. LABOUR MARKET TRENDS

Employment in this occupational group should grow at a rate slightly above the average for all occupations in Quebec taken as a whole. As with most management positions, these are attained through promotion after several years' related work experience. Graduates must therefore acquire a minimum of experience before rising to these positions, and realize that they will be in competition with people already in the field. The world of finance has undergone major changes over the past two decades as a result of such factors as deregulation, demographic trends and technological changes. The deregulation of the financial sector, which allows banks to engage in insurance activities and vice versa insurers to offer financial products, tends to increase the demand for finance managers. In order to deal with the resultant intensified competition, banks have broadened the range of products (various kinds of savings and chequing accounts, multi-term loans...) and services (automated tellers) offered to their customers. Some institutions specialize in one or another of these services, while others offer them all. The growing complexity of such products and of the financial markets in general is stimulating the demand for finance managers.

Because of the diversification of products and services, staff of financial institutions are increasingly called upon to act as financial consultants for investors and individuals. Finance managers are specializing more and more in the design, marketing, and sale of new financial products and putting less emphasis in the traditional

4. LABOUR MARKET TRENDS (cont'd)

administrative roles. Training is becoming very important for access to positions as finance manager, since most financial products require increasingly specialized knowledge. Demographic factors have an effect on both the duties of and the demand for finance managers. The aging of Quebec's population, which creates greater needs as regards pension funds and various savings instruments and fewer needs for mortgages, has an impact on the type of financial activities carried out. The influx of women into the labour market has meant that there are more people with basic accounts and credit cards. There are more customers to be served, and consequently the demand for finance managers is growing.

The financial sector has been greatly affected by technological changes. For example, the computerization of accounting has brought about major changes in the role of comptrollers, who used to organize and control accounting operations now done by new accounting software. Increasingly, young finance managers will have to become familiar with the computerized systems in their particular fields. More and more, senior managers will have to accept and promote micro-computers and help staff adjust to them. Computerization means that incoming finance managers must possess a whole new stock of knowledge.

Accounting software has changed the work of bank branch managers. From duties drawing on their great accounting expertise, they are moving toward responsibility for administrative staff, promotion, transfers and hiring, and marketing financial services.

5. EDUCATION AND SKILLS

For positions as bank managers, general familiarity with accounting operations is a basic requirement for junior managers. Knowledge of computerized accounting systems in banking and other fields is essential. Graduates must be willing to take in-service training and work in the various departments of the branch before rising to the position of branch manager. This generally takes three to four years. In-service training and computerization of accounting have made it easier for graduates to enter banking.

Increasingly banks are hiring university graduates and now require at the least a college diploma. New employees generally have a higher level of education than was required previously.

Beginners in the field of finance would be well-advised to prepare for the decompartmentalization of financial services, which brings with it a new approach centred more on the consumer. Specialization in consumer needs and corporate and individual savings management can facilitate access to these occupations. At the same time, an overview of financial services, gained through reading the financial pages of the newspapers, for example, is an asset for young beginners. Practical experience with several financial products is an important tool for enhancing marketable knowledge and competitive position. Managing finances should help develop expertise in the fields of operations strategy.

Oral communication skills is a basic requirement. The ability to express oneself in both French and English is becoming very important, especially as management consulting activities become more prevalent.

6. SALARY

According to the 1986 census, the average salary in financial management occupations was $37,800.

PERSONNEL AND INDUSTRIAL RELATIONS MANAGEMENT OCCUPATIONS 1136

Examples: Industrial-Relations Manager, Personnel Manager, Personnel-Training and Development Manager

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
13,475	19,085	5,610	3,175	8,785

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
180	-	-	615	795

OTHER IMPORTANT REQUIREMENTS

A university degree is increasingly required.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	26.4	33.1	Under 25 years	6.1	-	Full-time	97.7	98.4
Males	73.6	66.9	Over 54 years	10.8	-	Part-time	2.3	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (14)
- Other Federal Service (5)
- Provincial Service (5)
- Local Gov't Service (4)

Services (13)
- Hospitals (4)
- Other Health Care Institutions (3)
- Other Recreational Services (2)
- Business Services (1)
- Restaurants (3)

Finance and Insurance (7)
- Banks (5)
- Insurers (2)

Trans., Comm., Other (6)
- Railway Transport (1)
- Telephone Systems (3)
- Electrical Power Systems (2)

Retail Trade (6)
- Food Stores (2)
- General Retail Merchandising (4)

Other (2)
- Paper Industry (1)
- Trade Contracting (1)

4. LABOUR MARKET TRENDS

Employment in this occupational group should grow at an above average rate. Major transformations are currently taking place in labour relations, where participative management is becoming more widespread. Labour relations issues are giving ground to problems of communication, motivation and employee involvement. These occupations are undergoing major changes. Human resources management services are broadening and expanding their areas of expertise. Several firms have created positions as vice-president for human resources. New jobs are opening up as human resources consultant agencies specializing in training, recruitment and industrial engineering expand. Technological changes have created new human resources management requirements: industrial engineering and career

4. LABOUR MARKET TRENDS (cont'd)

paths within organizations are not quite what they used to be. The need for human resources training is being recognized in several industries. All these factors could lead to increased demand for administrators and change the requirements for such positions.

5. EDUCATION AND SKILLS

Almost all positions as personnel and industrial relations administrators and managers require a university degree in administration or industrial relations. Some positions require a master's degree in industrial psychology. Knowledge of English and mobility are assets. Computer systems are increasingly used in performing personnel administration duties. Basic knowledge of existing software in fields of activity related to these occupations is becoming increasingly important.

6. SALARY

According to the 1986 census, the average salary of personnel and industrial relations administrators and managers was $35,000. Bonuses may increase basic salary by 15 to 25%.

SALES AND ADVERTISING MANAGEMENT OCCUPATIONS 1137

Examples: Advertising Manager, Public Relations Director, Sales Manager

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
63,480	85,865	22,385	15,305	37,690

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
835	-	-	8,820	9,655

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.6	28.5	Under 25 years	8.0	-	Full-time	97.1	97.1
Males	81.4	71.5	Over 54 years	11.4	-	Part-time	2.9	2.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (55)
- Food Stores (14)
- General Merchandise Stores (6)
- Automobile Dealers (4)
- Shoe Stores (3)
- Women's Clothing Stores (5)
- Men's Clothing Stores (4)
- Furniture Stores (4)
- Other Retail Stores n.e.c. (7)

Wholesale Trade (10)
- Food (2)
- Motor Vehicle (1)
- Electrical Machinery, Equipment and Supplies (2)
- Machinery and Equipment (2)
- Lumber and Building Materials (1)
- Wholesalers n.e.c. (2)

4. LABOUR MARKET TRENDS

Growth of employment in sales and advertising management occupations should be above average. As with most managerial positions, these are generally not open to junior employees. In view of the favourable outlook in the trade industries, demand for these occupations can be expected to grow, especially since they are concentrated in the wholesale and retail trade. The services and manufacturing sectors also offer job opportunities, which could increase in the coming years. The new trend of firms toward integrating public relations functions into management could boost demand for people in these occupations.

Over the past few years the advertising industry in Quebec has experienced a decline; several clients have reduced their advertising budgets. In order to deal with this situation, several medium-sized agencies have had to merge.

4. LABOUR MARKET TRENDS (cont'd)

There has also been a diversification of services. In addition to the traditional services of creating advertisements and commercials and choosing media, agencies now offer such services as documentary research, promotion, direct advertising, graphic design and public relations. Some large agencies offer all these services, while others, mainly small ones, are highly specialized. Knowledge of these new advertising activities is an asset for administrators wishing to work in this field. New clients are coming to the fore: health and social service organizations, professional corporations, lawyers' offices, the stock market; and this is creating administrative positions in advertising and sales.

Increased computerization of the trade sector (computerized stock control, computerized sales and advertising records) means new knowledge is required in these occupations. Experience in both sales and marketing, rather than solely in personnel management as gained in a production manager position, for example, is increasingly in demand.

5. EDUCATION AND SKILLS

For some positions, a CEGEP diploma in administration technology is required. More often a university degree in administration and marketing is a qualification. Experience in sales, management and marketing is generally sought. For managerial positions in sales of technical products, specialized knowledge is a valuable asset. Oral communication skills makes obtaining these positions easier. Knowledge of English is necessary in the Montreal region and for positions in large and medium-sized firms.

6. SALARY

According to the 1986 census, the average salary of an advertising or sales manager was $28,900. Because of the wide range of qualifications and duties, it is difficult to establish a representative salary scale. In Canada in 1986, according to Thorne, Stevenson and Kellogg, the annual salary of advertising and sales promotion managers was between $23,600 and $66,000, the average being $39,400; sales and branch managers earned $36,100. Commissions and bonuses must be added to these figures.

PURCHASING MANAGEMENT OCCUPATIONS 1141

Examples: Marchandise Purchasing Manager, Building Supplies Purchasing Manager

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,170	2,520	350	485	835

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
60	-	60	540	660

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	14.9	18.3	Under 25 years	4.0	-	Full-time	98.3	99.1
Males	85.1	81.8	Over 54 years	15.0	-	Part-time	1.7	0.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Wholesale Trade (10)
- Food (2)
- Electrical Machinery, Equipment and Supplies (2)
- Machinery and Equipment n.e.c. (2)
- Lumber and Building Materials (2)
- Wholesalers n.e.c. (2)

Government Service (6)

Retail Trade (8)
- Food Stores (4)
- General Merchandise Stores (2)
- Women's Clothing Stores (2)

Chemical and Chemical Products (3)
- Toilet Preparations (1)
- Other Products (2)
- Plastic Manufactured Products (2)
- Pulp and Paper Plants (2)

Social, Cultural, Commercial and Personal Services (8)
- Universities and Colleges (2)
- Hospitals (2)
- Camping Grounds (4)

Other (6)
- Trade Contracting (2)
- Telephone Systems (2)
- Electrical Power (2)

4. LABOUR MARKET TRENDS

The growth rate of employment in these occupations is expected to be average. These positions require several years' experience. Recent graduates rarely move into a sales manager position immediately.

Technological changes could have a positive impact on the demand for people in these occupations. As administrative duties such as stock control and bookkeeping become computerized, information needs grow and become more complex, and the expertise of purchasing managers becomes increasingly sought-after. Their duties are

4. LABOUR MARKET TRENDS (cont'd)

changing, moving more toward purchase forecasting and medium- and long-term planning. In terms of skills in demand, the emphasis will be on negotiating with suppliers. Job opportunities will be greater for people with computer skills and an ability to maintain good interpersonal relations.

5. EDUCATION AND SKILLS

These positions are reached by climbing the rungs of the ladder from clerk to assistant buyer, to buyer, to purchasing manager. However, most people entering these occupations have a bachelor's degree in administration or a CEGEP diploma. In large and specialized firms, purchasing managers must have broad technical knowledge in their field. Knowledge of English is a major asset. The ability to work as a member of a team and a sense of co-operation and dialogue are other desirable qualities.

6. SALARY

According to the 1986 census, the average salary of purchasing managers was $33,450.

SERVICES MANAGEMENT OCCUPATIONS 1142

Examples: Hotel Manager, Landry and Dry Cleaning Area Manager, Janitorial Services Branch Manager

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,240	20,635	5,395	3,800	9,195

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
95	-	-	2,570	2,675

OTHER IMPORTANT REQUIREMENTS

Job mobility is a major source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.7	33.0	Under 25 years	8.0	-	Full-time	95.3	94.4
Males	81.3	67.0	Over 54 years	13.1	-	Part-time	4.7	5.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Social, Cultural, Commercial and Personal Services (99)
- Accommodation and Food and Beverage (54)
- Hotel, Motel (15)
- Unions (5)
- Other (25)

Insurance Agencies and Real Estate Industry (1)
- Real Estate Operators (1)

4. LABOUR MARKET TRENDS

According to forecasts, the growth rate of employment in these occupations will be above average, given the expected growth in the hotel business and various other services. As with most managerial positions, these generally require several years' experience. Job mobility is a major source of labour. Openings for managers are closely linked to the accommodation and food and beverage sectors, where prospects seem favourable. Despite some negative factors such as a slower population growth rate and the aging of the population, the combined effect of several other factors will support the growth of these industries. Modern families with fewer children and single people tend to eat out more often and travel more. Greater labour market participation by women and higher household incomes have had a positive effect on demand for these services, thereby increasing demand for managers in these fields.

The higher level of education among the population and the growing number of older consumers is diversifying demand; for example, there is a trend toward health foods in restaurants and a cosier atmosphere in accommodation.

4. LABOUR MARKET TRENDS (cont'd)

The opening of new types of restaurants and accommodation should provide new job opportunities in these occupations. Although to varying degrees in different establishments, several functions related to the hotel and restaurant businesses are now computerized: reservations, accounting, room service, billing, stock control and meal preparation. While management duties have been transformed by this, the effect of the new technologies has been minimal on senior management. However, knowledge of computerized systems is an asset for people starting out in the field.

5. EDUCATION AND SKILLS

In small accommodation and restaurant establishments, the owners usually manage the business. Generally in hotel and restaurant management, the basic requirement is a DEC in hotel or food and beverage administration with three to four years' related experience, or a secondary school diploma with ten or so years' experience. Knowledge of English is a major asset. Those who can adjust easily to the computerized systems used in the industry have a competitive advantage. The ability to read financial statements, draw up budgets and follow daily bookkeeping are also assets. Good interpersonal skills are in demand. Being able to adjust to long working hours and variable schedules is necessary. Mobility may often be required.

Several programs offer training in the hotel and restaurant businesses. At the university level, UQAM offers a three-year program in tourism management, McGill University a bachelor of commerce with specialization in food service administration, and ITHQ a master's of science and technology in hotel and tourism management. McGill and Concordia offer undergraduate and graduate certificates. At the college level, Lasalle and ITHQ offer training in hotel management technology. Champlain, Granby, Lasalle, Matane and Merici colleges and ITHQ give courses in food service management and tourism technology.

6. SALARY

The average annual salary of hotel managers varies greatly depending on the size of the hotel and the importance of the position. According to Renard International Consultants Ltd, in 1986 in Canada, a general manager of a hotel could earn on average between $34,000 and $50,000, depending on the number of rooms; a room manager, between $26,000 and $28,000.

PRODUCTION MANAGEMENT OCCUPATIONS 1143

Examples: Industrial and Manufacturing Production Manager, Food and Beverage Production Manager, Oil and Gas Production Manager

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,490	18,030	2,540	3,820	6,360

LABOUR SUPPLY

ESTIMATED UNEMPLOYED	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY
300	-	10	1,220	1,530

OTHER IMPORTANT REQUIREMENTS

Technical and management skills are in demand.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.2	12.0	Under 25 years	4.0	-	Full-time	99.2	98.3
Males	90.8	88.0	Over 54 years	13.0	-	Part-time	0.8	1.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Other Industries (24)
- Plastic Manufactured Products (2)
- Other Textile Products (2)
- Stamped, Pressed and Coated Metal Products (2)
- Pulp and Paper Plant (4)
- Commercial Printing (3)
- Smelting and Refining (1)
- Aircraft and Parts (2)
- Telecommunications Equipment(3)
- Other Manufacturing Industries (2)
- Trade Contracting (2)
- Machinery and Equipment Wholesalers (1)

Clothing Industry (8)
- Men's Clothing (2)
- Women's Clothing (4)
- Other Clothing Industries (2)

Food and Beverage (5)
- Dairy Products (2)
- Other Food Industries (2)
- Beverage Industry (1)

Machinery Industries (4)
- Other Machinery and Equipment (2)
- Office and Business Machine Industries (1)

Chemicals and Chemical Products (4)
- Pharmaceutical and Medicine Industry (1)
- Toilet Preparations (1)
- Other Chemical Products (2)

Wood Industries (3)
- Sawmill (1)
- Sash, Door and Other Millwork Industries (2)

4. LABOUR MARKET TRENDS

According to forecasts, the employment growth rate of this occupational group should be about average, given the expected growth in the manufacturing sector. A person usually rises to a position as production manager after several years' experience, not at the beginning of his or her career.

Computerization of production processes may change the organization of production and, as a result, the oversight

4. LABOUR MARKET TRENDS (cont'd)

duties performed by production managers. All plants are not affected in the same way by new technologies, and the reorganization of work resulting from the introduction of the same technology varies from place to place. In several firms, traditional equipment is used alongside new computerized equipment. In such cases, the actual organization of production is changed little by the use of numerically control machine tools (NCMT). The impact of technological changes on management functions varies greatly. In general, as a result of computerized management, modified or new work relations between employees and management are emerging. With NCMT, several people with different trades (mechanics, electricians, programmers) share the same work station. There are changes in the role of production managers and the skills they require. Skills in mechanics and electronics, hydraulics, programmed controls and co-ordination of the various computerized subsystems are in demand. In addition to these technical qualifications, management skills such as production planning, business sense and general managerial know-how give an advantage. A good capacity for working as a member of a team, supervising operational staff who are at a higher level, and providing training for new technologies increases one's chances of obtaining these positions.

5. EDUCATION AND SKILLS

At present there is no specific educational requirement, although a secondary school diploma and post-secondary training (bachelor's in engineering or financial administration) are considered assets. Knowledge of computerized systems as applied to production is necessary. Managerial, supervisory and communications skills are in demand. Knowledge of English is important.

6. SALARY

According to the 1986 census, the average salary of production manager was $35,770. According to the 1988 National Survey, 1986 university graduates working in these occupations were earning $29,772 on average.

MANAGEMENT OCCUPATIONS, CONSTRUCTION OPERATIONS 1145

Examples: Construction Manager, Construction Superintendant

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,930	2,910	- 20	800	780

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
220	-	-	530	750

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.4	4.2	Under 25 years	3.0	-	Full-time	98.8	97.0
Males	98.6	95.8	Over 54 years	17.5	-	Part-time	1.2	3.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (68)
- Building Construction (36)
- Highway, Bridge and Street Construction (4)
- Other Construction (6)
- Special-trade Contractors (22)

Business Services (7)
- Scientific Studies and Services (7)

Gov't Service (5)
- Provincial Service (2)
- Local Gov't Service (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Given the outlook for the construction sector, construction managers and administrators may see a decrease in their numbers. Nonetheless, forecasts indicate that some 800 additional managers will be needed to fill job openings created by attrition. Employment opportunities for construction managers and the level of construction activity are linked to economic growth. It is expected that over the next few years the demand for new residential buildings will decrease and the demand for commercial buildings will slow down, whereas home renovations will progressively increase. The undertaking of large construction projects in the areas of aluminum works and hydroelectric power as well as the upsurge in road works and institutional construction projects should maintain construction activity. Nevertheless, the water purification sector is entering a period of decline owing to the completion of the Quebec water purification program.

5. EDUCATION AND SKILLS

Generally speaking, good administrative skills and the ability to work with members of other occupational groups are assets. Candidates who have studied management and have a knowledge of engineering as well as experience have an advantage. Knowledge of computerized stock control, material requirements planning, control of work under way and construction accounting is an asset.

6. SALARY

According to the 1986 census, the average salary of construction managers and administrators was $40,684. Salary varies according to experience, the complexity of the duties and the scope and location of the project. For large projects within Canada, in 1987, construction managers earned between $60,000 and $75,000 annually, while for small projects annual salaries varied from $40,000 to $50,000. Project coordinators earned between $30,000 and $50,000, and site superintendents earned $50,00 or more.

MANAGEMENT OCCUPATIONS, TRANSPORT AND COMMUNICATIONS OPERATIONS 1147

Examples: Trucking Company Manager, Radio Station and Television Station Manager, Airline Manager, Traffic Manager, Flight Director, Port Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,895	5,510	615	1,040	1,655

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
790	-	-	-	790

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	14.0	19.0	Under 25 years	3.7	-	Full-time	-	98.6
Males	86.0	81.0	Over 54 years	15.3	-	Part-time	-	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (44)
- Air Transport (1)
- Air Transport Serv. (1)
- Railway Transport (9)
- Water Transport Serv. (1)
- Other Truck Transport (12)
- Urban Transit Systems (1)
- Misc. Transport Serv. (3)
- Other Transportation (3)

Communications (29)
- Radio and Television Broadcasting (5)
- Telephone Systems (23)
- Telegraph and Cable Systems (1)

Gov't Service (4)
- Other Federal Service (2)
- Provincial Service (2)

4. LABOUR MARKET TRENDS

Given the growth forecast for the transportation and communications sectors, employment is expected to increase at a below-average rate. People generally enter management occupations in these fields after several years of experience and often after acquiring on-the-job training.

Deregulation of the trucking industry has resulted in a wave of company mergers and the disappearance of smaller companies. This trend should continue at a slower rate than in past years. Moreover, transport companies are becoming increasingly specialized to the detriment of transportation in general and this trend should be more pronounced on the labour market. The nature of transportation is becoming more homogeneous, thus making it easier to assimilate new technologies related to the computerization of transport management and the automation of storage systems, which should accelerate over the next few years. Knowledge of these new technologies is an asset for truck transport managers.

4. LABOUR MARKET TRENDS (cont'd)

The changes resulting from deregulation have spurred the demand for marketing and sales managers. Transporters' increased freedom to offer services to a larger number of destinations may create employment opportunities for managers. However, such prospects may remain quite limited, given that in the trucking industry there is generally one supervisory position for every ten truck drivers' jobs.

As demographic, social and cultural trends are making it increasingly difficult to recruit qualified drivers, the requirements of the road transport industry are shifting towards personnel recruitment and training and give priority to candidates with experience in human resources management.

Administrators in the area of railway transport are facing a staff reduction policy owing to the decrease in user volume and competition from other means of transportation. In addition, the impact of technological changes has had the effect of reducing staff in a number of occupations. The combined effect of technological progress and personnel cuts reduces the prospects for administrative and management jobs.

Air transportation is sensitive to the economic situation. The slowdown in activities, exacerbated by the rise in oil prices, has led to the suspension of some routes and staff reductions. The demand for administrators in the field should be limited over the next few years.

The stagnation of advertising markets and budget cuts in radio and television stations have made employment opportunities difficult for administrators in this area. The appearance of new competitors has opened up the market in past years. Moreover, the fragmentation of the listenership, the decrease in advertising revenues and the increase in production costs raise the threat of personnel cuts and decrease the demand for administrators. The telephone sector will be affected by the numerous technological innovations in the field. The modernization of the telephone system, the potential decompartmentalization of the cable distribution industry and telecommunications companies should increase competition. The downward trend in the number of management positions in telephone companies should continue.

5. EDUCATION AND SKILLS

Given the variety of occupations, it is difficult to specify which skills are required for a position as transportation and communications manager. These occupations may be accessed in a number of ways. Transportation managers must be familiar with the new technologies in the industry in which they are working. Transportation management requires personnel who are qualified in administration, human resources, sales systems and marketing. Good communication and language skills are assets.

For road transport operation managers, a university education in business administration is an asset. An adequate amount of experience in transport may supplement education.

6. SALARY

According to the 1986 census, the average salary of transportation and communications managers was $41,292.

ACCOUNTANTS, AUDITORS AND OTHER FINANCIAL OFFICERS 1171

Examples: Chartered Accountant, Cost Accountant, Industrial Accountant, Tax Analyst, Mortgage Consultant, Insurance Underwriter

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
50,395	59,620	9,225	12,780	22,005

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,300	-	-	22,600	23,900

OTHER IMPORTANT REQUIREMENTS

A master's degree in computer science is required.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	29.6	40.9	Under 25 years	4.4	-	Full-time	96.5	94.8
Males	70.4	59.1	Over 54 years	10.4	-	Part-time	3.5	5.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (26)
- Accounting Serv. (20)
- Management Cons. Serv. (2)
- Other Services (4)

Finance, Ins., Real Estate (16)
- Finance (11)
- Insurance (3)
- Insurance and Real Estate (2)

Gov't Service (11)
- Other Federal Serv. (4)
- Provincial Serv. (6)
- Local Gov't Serv. (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. It will take some time, however, for the economy to absorb the large number of new graduates. Traditional accounting functions are being affected by a number of factors. The computerization of accounting data and the emergence of specialized software packages specifically designed for auditing, data analysis and taxation are among the most important of these factors. These new technologies are considerably changing the skills required of accountants. The shift is increasingly away from basic information recording towards analysis and consulting. The duties of accountants are becoming more diversified, ie from accounting and auditing, their duties are now more centred on taxation and financial management. Accounting firms are increasingly offering consulting services. Computer technology is giving rise to new areas of specialization, such as accountants with expertise in computer science whose main duties include the development and refinement of electronic accounting systems and data analysis and interpretation. Computer consulting offers good opportunities for the future. The demand for accountants specializing in traditional accounting and auditing appears to have levelled off. The demand is now greater for accountants who specialize in electronic systems and in accounting for certain economic sectors. Mastery of computer technology is becoming increasingly necessary for accountants. Another factor is the decompartmentalization of financial intermediaries following the merging of financial institutions. The possibility for each category of intermediaries to sell a range of financial products opens employment opportunities for accountants as financial consultants. Rapid development in the financial consulting function can be expected. Accounting firms are increasingly offering financial planning services. At present, it is not necessary to be an accountant in order to act as financial consultant to individuals or companies, but accounting skills are an asset.

4. LABOUR MARKET TRENDS (cont'd)

Accountants are tending to provide comprehensive consulting on financial questions. Even auditing tasks are expanding to include management auditing which enables accountants to evaluate strategic decisions made by companies in such varied fields as computer science, human resources and investment policies.

A third factor which will affect this occupational group is the opening up of new markets related to the Canada-U.S. Free Trade Agreement and to other potential agreements with other countries. Advanced knowledge of the American economy and of investment regulations, subsidies, exports, taxation and international marketing will be assets for accountants. Amendments to the legislation on the Canadian taxation system should spur demand for accounting skills.

As their financial needs grow and the range of financial instruments becomes more complex, companies are increasingly in need of expertise in the areas of finance and taxation. Taxation is becoming an important factor in the financial strategy of companies. The demand for experts in this area is growing and provides good opportunities for accountants.

5. EDUCATION AND SKILLS

It is becoming necessary for chartered accountants to keep abreast of new technologies in the field. In addition to finance and accounting, a knowledge of marketing, labour relations and quantitative management methods are assets. The emergence of new needs in the design of computer systems, financial analysis, personal finance planning, company mergers and acquisitions and the American economy in relation to the Free Trade Agreement provides opportunities for accountants who have a knowledge of these areas.

Knowledge of computerized systems related to accounting duties is essential for accountants. Bilingualism is an asset. New prospects are opening up for accountants in computer-assisted audit techniques, research, sales tax and international taxation. Comprehensive auditing is expanding to include other consulting services.

There are three types of accountants belonging to three distinct institutions and whose training is quite different. Chartered accountants (CA) specialize in tax and financial consulting, estate planning, accounting and auditing. Students wishing to become chartered accountants must complete a bachelor's degree in business administration and pass the exam administered by the Institute of Chartered Accountants. A chartered accountant certificate is issued to accounting students after two years of on-the-job training with a company.

The Certified General Accountant (CGA) is mainly involved in tax planning, auditing and accounting systems consulting. To become a CGA, candidates must have a bachelor's degree in business administration, pass four mandatory examinations in accounting, finance, auditing and taxation, and complete a training period with a company.

Certified management accountants (CMA), formerly known as Registered Industrial Accountants (RIA), are employed by companies and governments and provide managers with guidance in their decision-making. A bachelor's degree is not necessary to become a CMA. Candidates must take three exams on management accounting, financial accounting and the preparation of a case study. A two-year training period completes the CMA's training.

6. SALARY

According to the 1986 census, the average salary of accountants, auditors and other financial officers was $29,330. Financial consultants may work on a fee or commission basis. According to the 1988 National Graduate Survey, the average salary of respondents two years after graduation was $23,697.

PERSONNEL AND RELATED OFFICERS 1174

Examples: Labour Relations Specialist, Employment Counsellor, Staff Training Officer, Labour Relations Representative, Job and Wage Analyst, Staffing Officer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8,925	10,470	1,545	1,870	3,415

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
455	-	-	2,430	2,885

OTHER IMPORTANT REQUIREMENTS

Employee training and development duties are expected to increase.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	42.0	51.3	Under 25 years	10.7	-	Full-time	-	96.0
Males	58.0	48.7	Over 54 years	8.9	-	Part-time	-	4.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (53)
- Other Federal Service (31)
- Provincial Service (19)
- Local Gov't Service (3)

Financial Industries (6)
- Banks (4)
- Insurance Carriers (2)

Business Services (6)
- Employment Agencies and Personnel Suppliers (4)
- Management and Business Consulting Serv. (1)
- Misc. Services to Business Management (1)

Community Services (8)
- Elem. and Sec. Schools (2)
- Colleges and Universities (1)
- Hospitals (3)
- Other Health Care Inst. (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an average rate. The implementation of more comprehensive and advanced resource planning systems in the industry should spur demand for these professionals. Employee motivation, participation and training become priorities for the development of human resources.

With the introduction of new business technologies and the growing emphasis being placed on employee motivation, employee training and development should assume increasing importance in the personnel officer's duties.

4. LABOUR MARKET TRENDS (cont'd)

Personnel management requirements are shifting towards improved employee motivation, productivity and ability to adapt to change. Labour relations are changing. Participative management is being practised by a number of companies. The ability to communicate and to practise participative management is an asset for human resources managers. The ability to make decisions based on a consensus, the ability to exercise managerial functions outside certain classic constraints are assets for staff officers.

Managerial and supervisory skills are sought. Knowledge of computer applications in personnel management is an asset.

5. EDUCATION AND SKILLS

Although there are no specific requirements for this occupation, graduates with a bachelor's degree in industrial relations or business administration have an advantage.

6. SALARY

According to the 1986 census, the average salary of labour officers was $31,000. The National Graduate Survey conducted two years after respondents had completed their studies showed that those employed as staff officers earned an average of $26,980 in 1988.

PURCHASING OFFICERS AND BUYERS, EXCEPT WHOLESALE AND RETAIL TRADE 1175

Examples: Hotel/Restaurant Purchasing Officer, Tobacco/Vegetable/Livestock Buyer, Television-time Buyer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,920	8,200	2,280	1,630	3,910

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
160	-	-	100	260

OTHER IMPORTANT REQUIREMENTS

Professional mobility is a significant source of labour.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.0	26.1	Under 25 year	6.2	-	Full-time	98.4	98.5
Males	82.0	73.9	Over 54 years	14.4	-	Part-time	1.6	1.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Manufacturing (22)
- Pulp and Paper (3)
- Machinery and Other Equip. (4)
- Aircraft and Aircraft Parts (5)
- Telecom. Equip. (3)

Gov't Service (10)
- Other Federal Service (4)
- Provincial Service (3)
- Local Gov't Service (3)

Community Services (11)
- Elem. and Sec. Schools (3)
- Hospitals (4)
- Advertising Services (2)
- Restaurants, Taverns (2)

Transportation, Communications (2)
- Electric Power (3)
- Air Transport (2)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. This occupation is vulnerable to changes in the economy, particularly where jobs in the manufacturing sector are concerned. The buyer's task is all the more important in bad economic times. Buyers must combine knowledge of how to secure reliable, diversified sources of supply at low prices with technical knowledge and marketing and negotiating skills. The computerization of many routine operations means that buyers' tasks are shifting away from records management towards medium- and long-term forecasting and strategic planning. With the advent of international trade, buyers are often required to travel abroad.

5. EDUCATION AND SKILLS

There is no specific training for this occupation but secondary-school students are advised to take accounting, computer science and economics courses. Jobs as clerk or assistant buyer provide a means of entry into this occupation. A post-secondary degree allows candidates to enter a buyer's position directly. The Purchasing Management Association of Canada is offering courses in Quebec in the various CEGEPs and universities. Laval University offers a bachelor's degree with a specialization in procurement. General technical knowledge and familiarity with computer systems applied to purchasing and stock control are sought, as are personal qualities such as a sense of dialogue and co-operation and ability to work in a team. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of buyers working full time was $29,594.

INSPECTORS AND REGULATORY OFFICERS 1176

Examples: Restaurant Inspector, Traffic Inspector, Insurance Inspector, Ship Inspector, Tariff Inspector, Transportation Inspector, Safety Inspector

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,165	5,020	1,855	1,035	2,890

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
35	-	-	543	578

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.5	14.3	Under 25 years	9.2	-	Full-time	97.7	96.4
Males	90.5	85.7	Over 54 years	19.2	-	Part-time	2.3	3.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transp., Communications (24)
- Air Transport (4)
- Air Transp. Serv. (3)
- Rail Transport (3)
- Water Transport Serv. (2)
- Urban Transit Systems (7)
- Highway and Bridge Maint. (2)
- Electric Power (2)
- Water Distribution (1)

Community and Communications Services (24)
- Scientific Studies and Services (4)
- Miscellaneous Business Services (9)
- Trade Unions (6)

Finance, Ins., Real Estate (20)
- Insurance Carriers (9)
- Ins. and Real Estate Agencies (7)

Gov't Service (6)
- Provincial Service (5)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Market conditions for inspectors' positions are favourable. Public concern over the safety of dangerous products and chemical products is helping to maintain the demand for inspection services even though commercial activity is slowing down. Deregulation of some industries, such as road transportation, could have a positive impact on the demand for these professionals owing to the growing importance that regulation is placing on safety.

5. EDUCATION AND SKILLS

The various occupations in this group all require specific studies and experience. Ideally, candidates will have completed a university or college program in a related field of study. In almost all cases, inspectors are also expected to have acquired a fair amount of experience in their area. The amount of experienced required usually increases with the complexity of the duties. Moreover, inspectors must be willing to undergo on-the-job and classroom training, take exams and, in some cases, become accredited.

For occupational safety inspectors, a community college diploma in industrial safety and sanitation and a certificate of collegial technical studies in prevention are assets. For traffic inspectors, a secondary-school diploma and on-the-job training are required, as well as a driving permit obtained in the past five years and three years' experience as a bus driver. For restaurant inspectors, a diploma of collegial studies in hotel management technology is an asset, while for hotel and tourist establishment inspectors, a diploma of collegial studies in hotel management technology is required by employers. For animal protection inspectors, a diploma of collegial studies in animal health is an asset even though training is often acquired on-the-job and a secondary-school diploma is sufficient to enter this occupation.

6. SALARY

According to the 1986 census, the average salary of inspectors and regulatory officers was $31,348.

OCCUPATIONS RELATED TO MANAGEMENT AND ADMINISTRATION 1179

Examples: Industrial Development Representative, Sales Promotion Administrator, Public Relations Agent, Labour Organization Agent, Association Executive Secretary, Tourism Co-ordinator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,125	18,975	3,850	4,020	7,870

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,660	0	25	2,280	3,965

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	27.7	38.9	Under 25 years	-	-	Full-time	-	95.5
Males	72.3	61.1	Over 54 years	-	-	Part-time	-	4.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (12)
- Advertising Serv. (2)
- Eng. and Scient. Serv. (2)
- Mgmt. Cons. Off. (6)
- Misc. Business Services (2)

Gov't Service (22)
- Other Federal Service (7)
- Provincial Service (12)
- Local Gov't Serv. (3)

Misc. Services (12)
- Labour Organizations (9)
- Misc. Services, n.e.c. (3)

Transp., Comm. and Public Util. (5)
- Public Utilities (1)
- Radio and Television Broadcasting (1)
- Telephone Systems (1)
- Electric Power (2)

Fin., Ins., Real Estate (8)
- Banks, Other Deposit Accepting Inst. (4)
- Insurance Carriers (2)
- Real Estate Operators (2)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. More than 7,800 job openings are expected, half of which will be created through attrition of the present labour force. These positions are generally attained after several years of experience. This occupational group includes public relations agents, information officers, company consultants, promoters and various other agents (business agents, advertising agents, etc.). Growing concern about maintaining the quality of communications with outside parties is leading more and more companies to include public relations agents on their management teams. Public relations falls within the management function category. Such new clienteles as health and social service organizations, professional corporations, law firms and financial consulting firms could provide job prospects for public relations professionals. A number of specialized areas could offer interesting opportunities for communications consultants, such as financial

4. LABOUR MARKET TRENDS (cont'd)

communications, press communications, in-house communications and management of emergency situations. Given that personal contacts and communications are basic characteristics of all occupations related to management and administration, candidates must have good interpersonal and communication skills.

5. EDUCATION AND SKILLS

Entry to these occupations requires post-secondary training. In general, a bachelor's degree in business administration, public relations, mass communications or political science, or a community college diploma in financial management, business administration or commerce are in demand. Relevant experience and on-the-job training are required.

6. SALARY

According to the 1986 census, the average salary of administrative managers working full time was $33,672.

CHEMISTS 2111

Examples: Analytical Chemist, Physical Chemist, Inorganic Chemist, Industrial Chemist, Petroleum Chemist, Agricultural Chemist, Food Chemist, Nutritional Chemist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,445	2,830	385	380	765

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
100	-	-	490	590

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	17.2	23.3	Under 25 years	71.0	-	Full-time	96.3	98.1
Males	82.8	76.7	Over 54 years	8.8	-	Part-time	3.7	1.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Chemical & Chem. Prod. Ind. (24)
- Plastics (2)
- Pharmaceuticals (10)
- Paint and Varnish (2)
- Toilet Preparations (2)
- Industrial Chemicals (2)
- Misc. Chemical Products (6)

Education & Related Serv. (16)
- Post-secondary Education (1)
- Universities and Colleges (15)

Gov't Service and Defence (11)
- Other Federal Service (5)
- Provincial Service (5)
- Local Gov't Service (1)

Business Services (9)
- Scientific Studies and Services (9)

Health and Social Services (5)
- Hospitals (3)
- Diagnostic & Ther. Serv. (2)

Food and Beverage Industry (4)
- Dairy Products Ind. (2)
- Misc. Food Ind. (1)
- Beverage Ind. (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an average rate, given the labour market outlook in the manufacturing sectors, particularly in the food, chemical products, pulp and paper and services industries and in public administration. Job opportunities for chemists are affected by the amount of funds allocated to chemical research and development. Technological progress has had very little effect on this occupational group. Jobs may open up in the communications and information fields as public debate concerning quality control in the health and environment sectors requires relevant and reliable information linked to chemists' expertise.

5. EDUCATION AND SKILLS

A university degree with a specialization in chemistry, chemical engineering or a related field is required. Membership in the Professional Corporation of Chemists is mandatory. To become a member of the Corporation, a bachelor's degree and two years' experience are required. A master's degree or doctorate may be required for some jobs.

6. SALARY

According to the 1986 census, the average salary of chemists working full time was $32,609.

GEOLOGISTS 2112

Examples: Oceanographer, Paleontologist, Geochemist, Geophysician, Hydrologist, Mineralogist, Seismologist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
735	790	55	80	135

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
115	-	-	420	535

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	14.4	14.7	Under 25 years	15.8	-	Full-time	97.5	94.4
Males	85.6	85.3	Over 54 years	3.6	-	Part-time	2.5	5.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Community, Business and Personal Service Ind. (33)
- Universities and Colleges (6)
- Diagnostic & Therapeutic Services (1)
- Computer Services (1)
- Scientific Studies and Services (23)
- Off. of Mgmg. and Business Consultants (1)
- Misc. Business Services (1)

Gov't Service and Defence (21)
- Other Federal Service (8)
- Federal Service (13)

Services Incidental to Mining (15)
- Contract Drilling (2)
- Misc. Services Incidental to Mining (13)

Metal Mines (6)
- Misc. Metal Mines (6)

4. LABOUR MARKET TRENDS

Forecasts indicate a below-average employment growth, and the labour supply is expected to exceed the demand. It will still be difficult for new graduates to enter the labour market, however, and no improvement is anticipated. Geologists are employed mainly in petroleum research and in mining-related services. The demand for geologists will depend on the employment outlook in the mining sector and in petroleum and gas research. Compared to other provinces, the mining industry in Quebec has been losing ground for several years, and only moderate growth is expected in this sector. This occupational group is very sensitive to economic fluctuations. The employment outlook for geologists might improve as petroleum reserves diminish and prices increase. Openings

4. LABOUR MARKET TRENDS (cont'd)

may be created by the ongoing research for new sources of energy. Technological changes, ultra-violet and infrared devices, soil and sub-soil analyses conducted by airplane or satellite and the computerized processing of data obtained from measurement devices are making the tasks of geologists more complex. Knowledge of these new technologies is an asset. Nonetheless, the use of "electronic prospectors" and detecting devices may reduce the demand for geologists. Geographical mobility is very important for geologists. Knowledge of computerized cartography systems is an asset. Deep sea exploration and ocean research should maintain the demand for oceanographers.

5. EDUCATION AND SKILLS

A university degree in geology with a specialization in paleontology, petroleum geology or geochemistry is required.

6. SALARY

According to the 1986 census, the average salary of geologists working full time was $32,609.

PHYSICISTS 2113

Examples: Astronomer, Acoustician, Experimental Physicist, Laser Specialist, Biophysicist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
310	415	105	65	170

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
15	-	-	210	225

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.5	8.3	Under 25 years	9.5	-	Full-time	97.4	100.0
Males	90.5	91.7	Over 54 years	7.9	-	Part-time	2.6	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (17)
- Scientific Studies and Services (17)

Health and Social Serv. (16)
- Hospitals (14)
- Misc. Health Services (2)

Gov't Service and Defence (14)
- Defence Serv. (7)
- Other Federal Service (2)
- Provincial Service (5)

Transportation Equip. Ind. (8)
- Aircraft and Aircraft Parts Man. (8)

Elec. Power, Gas & Water Util. (8)
- Electrical Power (8)

Primary Metal Ind. (6)
- Iron Foundries (2)
- Smelting and Refining (2)
- Metal Extruding, n.e.c. (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at an above-average rate, although the number of jobs that will open up is not high, i.e. about 170. Labour supply is expected to exceed the demand. Physicists' jobs are not vulnerable to economic fluctuations. Movement of labour between fields is limited, resulting in a situation where a certain type of physicist may be difficult to find while another specialty has an oversupply. A small number of openings is anticipated in acoustics, optics, oceanography and fluid mechanics. Job opportunities in the public sector and in colleges and universities are limited, but the outlook in the business and scientific services sectors should be brighter. The growing concern on the part of the public and governments about pollution problems could spur employment opportunities for a number of specialists in this area. The tasks of physicists' are made easier by new technologies since instruments are increasingly being linked to microcomputers for automated reading and recording of data.

5. EDUCATION AND SKILLS

A university degree in physics or physical engineering is required. A master's degree or doctorate is required for some positions. A doctorate is recommended for astronomers. Knowledge of foreign languages may be useful. A master's degree is required for nuclear physicists.

6. SALARY

According to the 1986 census, the average salary of physicists working full time was $42,419.

METEOROLOGISTS 2114

Examples: Meteorologist, Climatologist, Industrial Meteorologist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
230	315	85	45	130

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
5	-	-	-	5

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	-	Under 25 years	-	-	Full-time	-	-
Males	-	-	Over 54 years	-	-	Part-time	-	-

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (65)
- Defence Services (3)
- Other Federal Services (55)
- Provincial Service (7)

Business Services (20)
- Scientific Studies and Services (20)

Education and Related Serv. (10)
- Universities and Colleges (10)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. The number of jobs available will remain low, i.e. nearly 130 jobs. The employment outlook for meteorologists is seldom affected by recessions. However, they are sometimes affected by government decisions concerning spending. The growing federal and provincial cutbacks in spending may limit job opportunities in the public sector, but the growing trend toward sub-contracting could increase employment prospects for these specialists in the business services sector.

Technological changes has an impact on the tasks of meteorologists. The use of complex spectroscopes and satellites to monitor low and high pressure systems and the analysis of data by computer permit better simulations and decrease calculations. These new technologies may cause the demand for meteorologists with a general training to decline. Nonetheless, the need for precise meteorological information in sectors such as agriculture or transportation could stimulate job openings for specialized meteorologists. As the capacity to produce detailed specialized information by means of new systems increases, meteorologists may be called on to assist chemical and agricultural consultants in determining atmospheric conditions and soil conditions. The public's concern with pollution may improve the employment outlook for industrial meteorologists.

5. EDUCATION AND SKILLS

A university degree in meteorology is required. After obtaining a bachelor's degree, graduates must complete a nine-month training period with the Department of the Environment in order to practise as a professional meteorologists.

6. SALARY

According to the 1986 census, the average salary of meteorologists working full time was $39,015.

PHYSICAL SCIENCES TECHNOLOGISTS AND TECHNICIANS 2117

Examples: Biochemistry Technician, Metallurgical Tester, Geology and geophysics Technician, Textile Technologist, Forest Products Technologist, Chemistry Technologist, Nuclear Power Station and Heavy Water Plant Technician, Meteorology Technician, Plastics Technician

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,800	5,910	110	935	1,045

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
540	-	720	310	1,570

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	23.8	28.0	Under 25 years	-	-	Full-time	-	96.8
Males	76.2	72.0	Over 54 years	-	-	Part-time	-	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Serv. and Defence (12)
- Defence Serv. (1)
- Other Federal Serv. (3)
- Provincial Serv. (7)
- Local Gov't Serv. (1)

Chem. & Chem. Prod. Ind. (10)
- Plastics (1)
- Pharmaceuticals (2)
- Toilet Preparations (1)
- Chemical Prod. Ind. (2)
- Misc. Chemical Prod. (4)

Business Services (9)
- Scientific Studies and Services (9)

Health and Social Serv. (6)
- Hospitals (5)
- Diagnostic and Therapeutic Serv., n.e.c. (1)

Primary Metal Industries (5)
- Iron and Steel Mills (1)
- Smelting and Refining (4)

Textile Industries (2)
- Cotton Yarn and Cloth Mills (1)
- Misc. Textile Ind. (1)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Over the next few years, the number of qualified workers is expected to exceed demand. Job prospects in the group vary from specialty to specialty. The demand for physical sciences technicians depends on government funding, research projects and the level of research and development activities in the private sector. Sales jobs may open up with companies specializing in scientific instrumentation. Computerized test reports and automated analysis could reduce the workload for technicians in some cases. Nonetheless, other technological advances will require competent and experienced technicians and technologists. The growing concern on the part of the public and government about problems arising from water, air and soil pollution and the introduction of legislation intended to control pollution may stimulate activity in this sector and create job openings for water, air and sanitation technicians. The employment outlook for plastics

4. LABOUR MARKET TRENDS (cont'd)

technologists is good, and the Quebec plastics industry is even having trouble finding enough qualified workers. While CAD/CAM technology is still not widely used, familiarity with it is definitely an asset, as are managerial, supervisory, development and analysis, and human relations skills. Openings for geology and geophysical technicians depend on changes in oil and metal prices. Low commodity prices have meant sharp cuts in exploration budgets, thus reducing labour demand in these occupations. Jobs for chemistry technologists are determined by demand for chemical products and raw materials. There seems to be an oversupply in this area that will probably continue for some time. Demand for forest products processing technologists depends to a large extent on the economic situation, particularly the health of the construction industry. Skills in personnel management are an asset for these technicians.

The demand for meteorology technicians may be slowed down by the use of complex spectroscopes and satellites to monitor low and high pressure systems and analyse data by computer. Since these technologies permit better simulations and decrease calculations the need for meteorology technicians may decline as their skills become less sought after.

5. EDUCATION AND SKILLS

A community college diploma in the relevant specialty is being increasingly required by employers. Communications skills are becoming more important as technologists and technicians are given more responsibility to act as intermediaries between companies and their customers and between teams involved in various projects. Technical knowledge and experience with computer systems are in demand. Personnel management skills are an asset.

6. SALARY

According to the 1986 census data, the average salary of physical sciences technicians and technologists working full time was $27,841.

AGRONOMISTS AND RELATED SCIENTISTS 2131

Examples: Agricultural Adviser, Horticulturist, Animal Scientist, Soil Conservationist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,815	2,115	300	395	695

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
310	-	-	905	1,215

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.4	22.7	Under 25 years	11.6	-	Full-time	96.8	94.7
Males	81.6	77.3	Over 54 years	10.8	-	Part-time	3.2	5.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (44)
- Other Federal Service (10)
- Provincial Service (29)
- Local Gov't Service (5)

Agriculture (13)
- Experimental Farms (8)
- Agricultural Services (5)

Commerce (7)
- Farm Prod., Wholesale Trade (1)
- Wholesalers, n.e.c. (3)
- Florists (2)
- Retailers, n.e.c. (1)

Education (7)
- Elem. and Sec. Schools (3)
- Universities and Colleges (3)
- Libraries and Museums (1)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to grow at an average rate, with the labour supply exceeding the demand. The requirement for the scientific expertise of agronomists is being stimulated by the spread of sophisticated agricultural technology, the introduction of new types of breeding (e.g. rabbits and goats), and increasing interest in controlled-atmosphere production (e.g. hogs and poultry, and under glass). Biotechnological research and its application to the agricultural sector should also create some new jobs, although in the short term they will be few in number. Employment opportunities are opening up in a neglected area of the tertiary sector, professional marketing and trade services. The administration, finance and sales representation sectors may also create good employment opportunities.

4. LABOUR MARKET TRENDS (cont'd)

Agronomists' tasks are being changed considerably by the introduction of microcomputer and data processing technology, and this is true for both farm management and production (e.g. calculation of food ratios, dairy production and field management). Demand is growing for agronomists who are specialized in farm management. The gradual establishment of farm management pools designed to provide members with an array of consulting services in accounting, taxation and management could further boost demand for agronomists who have a knowledge of these areas in addition to computer skills. Financial and legal knowledge encompassing farm credit, economics, financial management, governmental agreements, joint ventures and agricultural management pools is increasingly in demand.

Concerns about protecting the environment could improve the employment outlook for these scientists. New ecological concerns are tending to make agronomists' tasks more complex (conservation and development of renewable resources, agricultural pollution).

The many services provided by banks to the farming community may boost employment prospects in banks for agronomists and agricultural technicians. As agricultural consultants in banks, agronomists will be called upon to provide specialized technical support to both branches and clients, and may therefore find it useful to focus increasingly on agricultural economics, plant technology, zootechnology, etc. In addition to banks, other jobs could open up in companies that deal with farmers, such as processing and marketing companies. Demand for horticulturists may be stimulated by new reforestation policies which require horticultural skills in the areas of producing quality forest seed, land preparation, the use of seedlings in containers and plantation maintenance. Ornamental horticulture is a growing sector. Even though employment in a number of horticultural occupations is subject to considerable seasonal fluctuations, the market may remain favourable for horticulturists.

5. EDUCATION AND SKILLS

A university degree in agriculture is required. An occupational permit issued by the Order of Agronomists of Quebec on the basis of an examination as well as membership in the Order are required. For horticulturists, a community college diploma in the three-year agricultural technology program, with the agriculture option, is required. For some jobs, a university degree with a specialization in horticulture is necessary.

6. SALARY

According to the 1986 census, the average salary of agronomists and related scientists working full time was $31,025.

BIOLOGISTS AND RELATED SCIENTISTS 2133

Examples: Marine Biologist, Botanist, Zoologist, Cytologist, Bacteriologist, Microbiologist, Anatomist, Toxicologist, Ecologist, Biochemist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,065	2,600	535	455	990

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
275	0	5	885	1,165

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	35.7	35.9	Under 25 years	-	-	Full-time	-	95.3
Males	64.3	64.1	Over 54 years	-	-	Part-time	-	4.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (28)
- Other Federal Serv. (12)
- Provincial Service (14)
- Local Gov't Service (2)

Health and Social Services (27)
- Hospitals (20)
- Diagnostic & Ther. Serv. (7)

Education (22)
- Elem. and Sec. Schools (4)
- Post-secondary Inst. (2)
- Universities and Colleges (16)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, although labour supply is expected to exceed demand. Research into new drugs, biology, environmental protection and plant strains is creating new openings for biologists. The demand for environmental biologists should increase under the impact of growing public and government concern about pollution. The increasing number of biotechnology firms may boost demand for biologists. However, though the number of biotechnology firms is expected to increase, jobs may remain few and require specialized skills. The expansion of the environmental protection sector, considered an industry, may open up new jobs for biologists working in such fields as conservation, the fight against pollution, waste management and recycling. The acquisition of skills in several disciplines (functional engineering, microbiology and other scientific fields) could make it easier for these professionals to enter the labour market. In the field of research, there is a shortage of candidates with doctoral degrees.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a bachelor's degree in biology, zoology or botany. Some positions require a master's or doctoral degree. Pharmacologists (applied sciences) must be members of the Order of Pharmacists of Quebec to be able to practise and use the title. Ecologists are required to have a university degree in a specialized undergraduate level program such as biology, geography, forestry or agronomy, followed by a graduate level program in ecology or a related discipline. Veterinary pathologists must have a graduate degree in veterinary medicine, and be members of the Order of Veterinarians of Quebec if they wish to practise and use the title. The same is true for medical pathologists, for whom membership in the Order of Physicians of Quebec is mandatory. Plant pathologists must be members of the Order of Agronomists of Quebec to be able to practise their profession and biochemists must be members of the Order of Chemists of Quebec.

6. SALARY

According to the 1986 census, the average salary of biologists and related scientists working full time was $32,244.

LIFE SCIENCES TECHNOLOGISTS AND TECHNICIANS 2135

Examples: Agricultural Technician, Bacteriology Technician, Seed Analyst, Zoology Technician, Fish Farm Technologist, Silviculturist, Resource Management Technician, Forest Technician

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,295	4,165	870	440	1,310

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	GRADUATES 1989-2000 COMMUNITY COLLEGE	GRADUATES 1989-2000 UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
585	70	750	500	1,905

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	27.8	34.2	Under 25 years	38.6	-	Full-time	96.8	94.6
Males	72.2	65.8	Over 54 years	3.1	-	Part-time	3.2	5.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (33)
- Other Federal Service (7)
- Provincial Service (22)
- Local Gov't Service (4)

Agriculture (9)
- Experimental Farms (6)
- Agricultural Services (3)

Forestry (17)
- Logging (4)
- Forestry Services (13)

Education (12)
- Post-secondary Inst. (3)
- Universities and Colleges (9)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, and the supply of qualified labour in this group is expected to exceed demand. Employment in this occupational group depends on the allocations made by governments to the public administration sector, the services sector, the forestry industry and research and development in the private sector. The labour market outlook is best in the area of agricultural quality control. Job opportunities may open up in the field of environmental protection where there is a requirement for technical skills in the area of pollution control. Knowledge of and experience in computers, diagnostic techniques and design or multidisciplinary development should make it easier for these technicians to enter the labour market. Employment in this sector is affected by seasonal fluctuations and reaches a peak during the summer.

4. LABOUR MARKET TRENDS (cont'd)

Prospects for forestry technicians depend on government forest development policies. The new public reforestation policy adopted by the provincial government may stimulate demand for these workers. Growing concern on the part of the public and government about forest conservation may affect job opportunities for forestry technicians in the forestry industry. The area of forest equipment and product sales offers good employment prospects. Intensive reforestation activity could generate numerous jobs for silviculturists, in areas such as the transplanting of trees, land preparation, spacing and thinning of plants. Jobs may open up in small sub-contracting transportation companies or in nurseries. However, employment will retain its seasonal character, with most of the jobs available during the summer months. The services of zoology technicians are required by producers, agricultural professionals and farm organizations. These workers are therefore often called upon to deal directly with these groups. Consequently, both general and technical training are necessary, and personnel management and communication skills are in demand. Openings for soil technologists may increase as a result of government land conservation and environmental protection programs.

5. EDUCATION AND SKILLS

Completion of a three-year community college program in the relevant specialty is usually required. Mobility is necessary for most of these jobs, and many are temporary, contract, part-time or seasonal positions. Full-time positions can often be obtained after two or three years' experience. There is a certain amount of competition between university graduates in agriculture and community college graduates in agricultural technology.

6. SALARY

According to the 1986 census, the average salary of life sciences technologists and technicians was $24,262.

OCCUPATIONS IN LIFE SCIENCES, NOT ELSEWHERE CLASSIFIED 2139

Examples: Ecologist - Forestry, Forester

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,025	1,310	285	190	475

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
195	-	70	-	265

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	23.1	37.0	Under 25 years	30.8	-	Full-time	96.4	100.0
Males	76.9	63.0	Over 54 years	8.8	-	Part-time	3.6	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Forestry (54)
- Logging (14)
- Forestry Services (40)

Gov't Service (19)
- Other Federal Service (6)
- Provincial Service (13)

Agriculture (10)
- Experimental Farms (10)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Prospects for foresters depends on government forest management policies. The reforestation policy for public forests advocated by the provincial government may continue to stimulate the demand for these workers. Foresters are called on to assume team supervision tasks. Good verbal communication skills are an asset. Activity in the construction sector has an impact on the demand for forest products and therefore affects employment in these occupations. The growing concern on the part of the public and government to conserve forests may boost job prospects for forestry technicians in the forestry industry. Technological changes have an impact on the tasks of these technicians. The use of computer technology and specialized software in the area of forest management is becoming increasingly widespread and is affecting a number of sectors, such as harvest planning, inventory and fire prevention. In forestry, knowledge of computerized geographic information systems that combine cartography with forest inventory data and other information, such as agricultural activity and property lines, is becoming an asset. The field of forest equipment and products sales offers good employment opportunities.

5. EDUCATION AND SKILLS

Entry to these occupations generally requires a community college diploma in the relevant specialty. Foresters need an undergraduate degree, and must be members of the Order of Forest Engineers of Quebec to be able to practise and use the title. Candidates must complete a nine-month training period, under the supervision of an engineer who is already a member of the Order. Mobility is an asset for technicians working in environmental protection. Only a few community college graduates have jobs in food technology.

6. SALARY

According to the 1986 census, the average salary of workers specialized in the life sciences, not elsewhere classified, who were employed full time was $25,749.

ARCHITECTS **2141**

Examples: Building Architect, Landscape Architect

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,800	3,325	525	615	1,140

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
110	-	5	1,440	1,555

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.7	18.2	Under 25 years	6.8	-	Full-time	95.9	95.8
Males	90.3	81.8	Over 54 years	12.7	-	Part-time	4.1	4.2

3. MAIN SECTORS PROVIDING EMPLOYMENT

Business Services (71)
- Architects' Off. (68)
- Scientific Studies and Serv. (3)

Gov't Service (10)
- Other Federal Service (2)
- Provincial Service (5)
- Local Gov't Service (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. The supply of qualified workers in the field should surpass demand. The arrival on the market of several other types of professionals and technicians undercutting architects but offering similar services, such as construction management, exterior decoration, landscaping and urban planning, will intensify competition. This occupational group is vulnerable to economic fluctuations since it is linked to the construction sector. Growth in the construction sector will be weak and, consequently, so will growth in the field of architecture. The level of construction activity is expected to increase in the industrial sector rather than the residential or real estate sectors, which are the ones requiring architectural drawings. Home renovation, maintenance and improvement could help to maintain job opportunities for architects.

4. LABOUR MARKET TRENDS (cont'd)

Technological innovations such as computer-aided design (CAD) allowing the creation of three-dimensional plans on a computer screen have had an impact on the tasks of architects. Routine design tasks have been eliminated and it is now possible for architects to quickly correct the basic drawing. Job prospects are more promising for those familiar with computer-aided design, which is gradually being used on a regular basis by medium-sized and large firms. Furthermore, to meet increasing demands from customers, knowledge and experience in economic feasibility studies, interpretation of by-laws and regulations, and loan applications are assets.

5. EDUCATION AND SKILLS

A university degree in architecture is required. Membership in the Order of Architects of Quebec is mandatory. For landscape architects, membership in the Association of Landscape Architects is optional.

6. SALARY

According to the 1986 census, the average salary of architects working full time was $32,178.

CHEMICAL ENGINEERS 2142

Examples: Plastics Engineer, Process Technology Engineer, Chemical Product Design and Development Engineer, Environmental Engineer, Explosives Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,140	1,360	220	180	400

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
30	-	55	275	360

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.0	8.8	Under 25 years	10.8	-	Full-time	99.3	100.0
Males	97.0	91.2	Over 54 years	7.8	-	Part-time	0.7	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (18)
- Scientific Studies and Services (17)
- Management Consulting Services (1)

Chemical Industries (16)
- Synthetic Resins (5)
- Paint and Varnish (1)
- Soap and Cleaning Comp. (1)
- Chemical Products Ind. (5)
- Other Chemical Prod. (4)

Gov't Service (12)
- Defence Services (2)
- Other Federal Service (5)
- Provincial Service (5)

Paper Industries (7)
- Pulp and Paper Plants (7)

Rubber and Plastics Industries (6)
- Rubber Products Ind. (3)
- Plastics Fabricating Ind. (3)

Primary Metal Industries (5)
- Smelting and Refining (5)

Food and Beverage Industries (4)
- Flour Industry (1)
- Other Food Industries (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. Most chemical engineers are working in the manufacturing industry, particularly in the chemical, paper, rubber and plastics, primary metal and food and beverages industries. A large number of chemical engineers are employed by business services and governments. Among the factors that may increase demand for this group of engineers is the growing complexity of chemical products, the development of plastic and synthetic fibers and the spread of biotechnology and its many industrial

4. LABOUR MARKET TRENDS (cont'd)

applications. Although the number of new jobs in industry will not necessarily be high, chemical engineers are in demand in this sector because the skills required in industrial processes involving biotechnology and its commercial applications are similar to those required in chemical engineering. The growing concern for environmental conservation should increase the requirement for chemical engineers. The demand for engineers specializing in petrochemicals could be adversely affected by the impact of higher oil prices on the consolidation of investments in the energy sector. New technologies are affecting the duties of chemical engineers as much as those of other groups of engineers. With progressive computerization, the role of engineers is becoming more diversified and management duties are taking up increasing amounts of their time. Knowledge of computer-assisted engineering systems in the field of fluid mechanics, the most recent of which can be read in 3D, is an asset for chemical engineers working in the areas of plastics, food and beverages and primary metals. Managerial, supervisory and communication skills are assets.

5. EDUCATION AND SKILLS

A university degree in chemical engineering is required. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of chemical engineers working full time was $42,236.

CIVIL ENGINEERS 2143

Examples: Structural Design Engineer, Construction Engineer, Transportation Engineer, Municipal Engineer, Hydrology Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,125	7,060	930	1,340	2,270

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
210	-	-	1,840	2,050

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.8	4.5	Under 25 years	-	-	Full-time	-	98.6
Males	97.2	95.5	Over 54 years	-	-	Part-time	-	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (39)
- Scientific Studies and Services (39)

Transportation (6)
- Railway Transport (3)
- Highway and Bridge Maintenance (3)

Gov't Service (16)
- Other Federal Serv. (2)
- Provincial Serv. (7)
- Local Gov't Serv. (7)

General Contractors (11)
- Building Construction (4)
- Highway, Bridge and Street (4) Construction (4)
- Other Construction (3)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at an average rate. Brisk competition is expected for the available jobs. Employment prospects for civil engineers are linked to construction activity that in turn is determined by general economic conditions. The implementation of Phase II of the James Bay hydroelectric project may help to maintain the demand for civil engineers. Nonetheless, the absence of large public projects, the drop in construction activity and government budget constraints resulting in cuts in highway, bridge, sewer system and water treatment plant design and construction projects may further reduce this demand. Job prospects may arise in the international markets. The nature of the projects undertaken by engineering consulting firms is changing. Contracts are increasingly aimed at regional projects and management and training services rather than heavy engineering work. New skills are therefore in demand. Moreover, the appearance of smaller, more specialized engineering firms may create openings for civil engineers.

4. LABOUR MARKET TRENDS (cont'd)

Technological changes have had an impact as much on the duties of civil engineers as on those of other engineers. Computer-assisted design manufacturing (CAD/CAM) free engineers from doing routine calculations and drawings of a repetitive nature. Duties are shifting more towards management, project design and supervision of project teams. In the context of team work, communication and managerial skills are increasingly sought after. Engineers are seeing their role shift more and more towards technology management. Knowledge of design software is a must.

The use of post-design project supervision software and of control software is widespread. Although these types of software do not affect engineering duties as such, they free engineers from certain tasks. Civil engineers are increasingly assuming the overall control of projects, to the point of finding funds for them.

5. EDUCATION AND SKILLS

A university degree in civil engineering is normally required. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of civil engineers working full time was $43,650.

ELECTRICAL ENGINEERS 2144

Examples: Computer Science Engineer, Electronic Engineer, Control Systems Engineer, Sound Engineer, Aerospace Electrical and Electronic Engineer, Computer Engineer, Communications Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
7,505	10,100	2,595	1,380	3,975

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
140	-	-	3,765	3,905

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.5	6.5	Under 25 years	7.1	-	Full-time	98.7	98.6
Males	95.5	93.5	Over 54 years	10.1	-	Part-time	1.3	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENTS (1986 %)

Electrical Products Industries (22)
- Telecom. Equip. Man. (18)
- Electr. Ind. Equipment (2)
- Electric Wire and Cable Man. (2)

Communication (12)
- Radio and Television Broadcasting (2)
- Telephone Systems (9)
- Telegraph and Cable Systems (1)

Electric Power, Gas and Hydro Utilities (18)
- Electric Power (18)

Business Services (14)
- Scient. Studies and Serv. (13)
- Management Consulting Services (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate well above the average. The supply of qualified engineers ready to enter the labour market should exceed demand. Most electrical engineering jobs are in the public utilities sector, namely electricity production and telecommunications as well as in the manufacturing sector and in engineering consulting firms. Given the forecasts for these sectors, the labour market outlook for electrical engineers is bright. The development of fiber optic communications, microprocessor technology and its applications should spur requirement for these professionals. Demand for electronics specialists should be greater than demand for engineers specializing in electrical technology.

4. LABOUR MARKET TRENDS (cont'd)

The anticipated growth in the aerospace industry should boost the demand for electrical engineers specializing in this area. In the air transportation sector, regulations requiring the modification of older aircraft, including the replacement of old electrical and mechanical instruments with electronic components, new technologies involving larger numbers of electronic components on new aircraft, and new aircraft maintenance technologies should stimulate the demand for these engineers. The development of expert systems should create employment opportunities for engineers specializing in the design of basic aircraft maintenance software. Knowledge of existing expert systems makes the duties of aerospace engineers easier by allowing them to read various indicators such as temperature, engine performance, etc., directly. The development of robotics software for robot manufacturers and their suppliers will create good opportunities for highly qualified computer engineers, although this market is not limited to Quebec. Specialists in computer design should see an increase in employment opportunities. New or developing areas, such as software testing, power supply, radio frequency, microtechnology and artificial intelligence may provide job prospects. There will be growing demand for electronics engineers specializing in systems network architecture, data bank design, operating systems and artificial intelligence.

The high level of technical knowledge required on the part of vendors, especially in electronics, opens up a new field of opportunity for engineers: marketing. Communication skills are an asset. Continuing education is essential for engineers if they wish to keep abreast of developments in their area of specialization.

5. EDUCATION AND SKILLS

A university degree in electrical engineering is normally required. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of electrical engineers working full time was $42,203.

INDUSTRIAL ENGINEERS 2145

Examples: Efficiency Engineer, Methods Engineer, Quality Assurance Engineer, Plant Layout Engineer, Manufacturing Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,210	4,890	680	930	1,610

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
165	-	-	2,700	2,865

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	13.4	15.4	Under 25 years	5.7	-	Full-time	99.1	96.9
Males	86.6	84.6	Over 54 years	10.6	-	Part-time	0.9	3.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (13)
- Scient. Studies and Serv. (11)
- Management Consulting Services (2)

Gov't Service (13)
- Other Federal Serv. (3)
- Provincial Serv. (8)
- Local Gov't Serv. (2)

Health and Social Services (6)
- Hospitals (4)
- Other Health Care Inst. (2)

Paper Industries (5)
- Pulp and Paper Plants (5)

Elec. Prod. Industries (4)
- Telecom. Equipment Man. (3)
- Elec. Ind. Equipment Man. (1)

Primary Metal Industries (3)
- Smelting and Refining (2)
- Aluminum Extruding (1)

Machinery Industries (2)
- Misc. Machinery and Equipment (1)
- Office and Store Machinery (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an average rate. Forecasts indicate an excess supply of qualified labour with respect to demand. The employment outlook for industrial engineers is linked to the growth rate in the manufacturing and business services sectors. The modernization and expansion of industrial equipment in Quebec is likely to be more moderate over the next few years, which could reduce the employment growth for these professionals. Engineers with advanced skills in and knowledge of new production methods will be most in demand. The new automated machining processes, especially numerically controlled machine tools, have systematized machining into a programming sequence, which leads to the need to organize these tasks around a single production

4. LABOUR MARKET TRENDS (cont'd)

segment. The computerization of production management systems, together with the constant output control this allows, has given industrial engineers more time to devote to production analysis. Computer technology has also meant that engineers now spend far less time on actual calculations and far more time on design and analysis. Employers are looking for people with specific experience and skills related to their particular industrial field. Communication skills are an asset. With the advent of new technologies, the organization of multidisciplinary work teams requires that industrial engineers have good oral communication skills.

5. EDUCATION AND SKILLS

A university degree in industrial engineering, or in mechanical or chemical engineering with emphasis on industrial engineering, is usually required. Engineering training is tending to become more demanding. Knowledge of computerized production control systems is becoming a necessity. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of electrical engineers working full time was $36,158.

MECHANICAL ENGINEERS 2147

Examples: Plant and Machine Design Engineer, Automation Engineer, Lubrication Engineer, Refrigeration Engineer, Aerospace Vehicle Propulsion Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,665	6,345	1,680	1,130	2,810

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
105	-	10	2,810	2,925

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.9	3.6	Under 25 years	8.9	-	Full-time	99.1	98.4
Males	98.1	96.4	Over 54 years	15.3	-	Part-time	0.9	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (19)
- Scient. Studies and Serv. (19)

Transportation (6)
- Railway Transport (3)
- Water Transport (2)
- Urban Transit Systems (1)

Gov't Service (5)
- Defence Services(1)
- Other Federal Serv. (1)
- Provincial Serv. (2)
- Local Gov't Serv. (1)

Transport Equipment Ind. (10)
- Aircraft & Aircraft Parts (8)
- Motor Vehicle and Parts (1)
- Railroad Rolling Stock (1)

Elec. Prod. Manufacturing (5)
- Telecom. Equipment (5)

Machinery Industries (6)
- Other Machinery and Equipment (6)

Paper Industries (4)
- Pulp and Paper Plants (4)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast and an oversupply of qualified labour is expected. The fact that mechanical engineers are involved in a wide variety of fields makes them less vulnerable to changing economic conditions than other engineering groups. However, the high degree of specialization means that there may be a shortage of some specialists but an oversupply of others. The largest number of openings will be for plant engineers. Demand for mechanical engineers will be boosted by machine-tool design for increasingly complex manufacturing processes and by software design for robotics. Growth in the aerospace industry will spur demand

4. LABOUR MARKET TRENDS (cont'd)

for mechanical engineers specialized in this area. There is a requirement for heating, ventilation and air-conditioning engineers with knowledge of and experience in maintenance mechanics. Nonetheless, employment prospects will depend on the number of construction projects that will be undertaken for new plants and buildings. New technologies are having an impact on the duties of mechanical engineers with respect to both production and control. Knowledge of graphics design software, industrial production software and project management software is a major asset.

5. EDUCATION AND SKILLS

A university degree in mechanical engineering is required. Managerial and supervisory skills and knowledge of computer-assisted design are sought. Many engineers must now assist in selling their firm's products. Knowledge of more than one specialty is an asset. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of mechanical engineers working full time was $40,026.

METALLURGICAL ENGINEERS 2151

Examples: Extractive and Process Metallurgy Engineer, Materials Science Engineer, Materials Handling Engineer, Foundry Metallurgist Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
725	1,095	370	105	475

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
15	-	-	495	510

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.6	9.3	Under 25 years	6.4	-	Full-time	100.0	97.5
Males	96.4	90.7	Over 54 years	6.4	-	Part-time	0.0	2.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Primary Metal Industries (37)
- Iron and Steel Mills (14)
- Iron Foundries (4)
- Smelting and Refining (16)
- Aluminum Extruding (3)

Business Services (6)
- Scientific Studies and Services (6)

Transport Equipment Manufacturing (12)
- Aircraft and Aircraft Parts Man. (12)

Wholesale Trade (5)
- Metal Products, n.e.c. (3)
- Wholesalers, n.e.c. (2)

Gov't Service (9)
- Other Federal Serv. (4)
- Provincial Serv. (5)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast and an oversupply of labour is expected. Most metallurgical engineers work either directly or indirectly in the manufacturing sector. The employment level of this occupational group is sensitive to general economic conditions since activity in the manufacturing and primary metal industries fluctuates according to the business cycle. For metallurgical engineers who specialize in physical metallurgy and metallurgical production processes, employment depends on changing economic conditions, the sale of steel exports and the state of the aerospace, automobile and machinery markets.

4. LABOUR MARKET TRENDS (cont'd)

Knowledge of new computer-aided engineering technologies (CAE) is a must. In metallurgy, physical phenomena are complex, three-dimensional and time-dependent. Also, CAE software dealing with fluid mechanics, which involves liquid flow with heat transfer, is constantly being developed. Knowledge of the various existing software packages and their use is an asset for metallurgical engineers.

5. EDUCATION AND SKILLS

A university degree in metallurgical engineering is required. Membership in the Order of Engineers of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of metallurgical engineers working full time was $35,716.

MINING ENGINEERS 2153

Examples: Mine Design/Construction Engineer (underground and surface), Mineral Exploration Engineer, Extraction Engineer, Processing Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
590	775	185	140	325

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
15	-	-	-	15

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.1	2.3	Under 25 years	-	-	Full-time	-	96.5
Males	97.9	97.7	Over 54 years	-	-	Part-time	-	3.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Mines (55)
- Iron Mines (10)
- Misc. Metal Mines (38)
- Asbestos Mines (7)

Primary Metal Industries (5)
- Smelting and Refining (5)

Business Services (20)
- Scientific Studies and Services (20)

Gov't Service (4)
- Other Gov't Service (3)
- Provincial Service (1)

Services Incidental to Mining (7)
- Other Contract Drilling (1)
- Misc. Serv. Incidental to Mining (6)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. The requirement for mining engineers is affected by economic factors such as the price of metals and product demand which are likely to influence the level of activity in the mining industry. The mining industry is sensitive to important changes in the commercial situation, resulting in fluctuations in the volume of employment. New technologies in the mining sector and the automation and control of remote-operated equipment are having an impact on the mining engineer's role. Computer-aided design (CAD) is improving the design and drafting process for underground mine infrastructures (wells, galleries and mineral passages) as well as the mining facilities drawing, which is also produced with CAD. CAD combines design and drafting programs that use the same geological and technical information bases. Nevertheless, the development of technologically advanced efficient mining systems, the implementation of increasingly stringent mine safety standards, the recovery of low grade ores, and the mining of minerals under the seabed are fields that should provide opportunities for mining engineers. Engineers with experience in mining or the oil industry may find jobs

4. LABOUR MARKET TRENDS (cont'd)

in biotechnology. Specialists in production process control and data processing have better prospects than other mining engineers. Computer technology in the area of mines, affecting mine planning, feasibility studies and mining geology, is having little effect on the demand for mining engineers. These engineers are increasingly required to have a knowledge of rock mechanics and mine planning. Most of the jobs available are in small remote towns. Mobility is an essential requirement.

5. EDUCATION AND SKILLS

A university degree in mining engineering is required. Membership in the Order of Engineers of Quebec is mandatory. Knowledge of mining and planning applications of computer technology is an asset.

6. SALARY

According to the 1986 census, the average salary of mining engineers working full time was $40,110.

PETROLEUM ENGINEERS 2154

Examples: Reservoir Engineering, Oil and Gas Recovery and Processing Engineer, Chief Drilling and Recovery Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
230	230	0	35	35

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
-	-	-	45	45

OTHER IMPORTANT REQUIREMENTS

The market is mainly pan-Canadian.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	11.8	2.7	Under 25 years	-	-	Full-time	-	100.0
Males	88.2	97.3	Over 54 years	-	-	Part-time	-	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Petroleum Industry (27)
- Petroleum Refineries (27)

Elec. Power, Gas & Water Util.(22)
- Gas Distribution (22)

Business Services (20)
- Eng. and Scient. Serv. (16)
- Mgmt. Cons. Off. (5)

Chemical Industry (11)
- Plastics (3)
- Industrial Chem Prod. (5)
- Misc. Chemical Prod. (5)

Mines (9)
- Crude Petroleum & Nat. Gas (3)
- Asbestos Mines (3)
- Misc. Mining Services (3)

Wholesale Trade (8)
- Petroleum Prod. (5)
- Electrical Machinery (3)

4. LABOUR MARKET TRENDS

Employment in this occupational group should remain stable. Very few jobs are expected to open up on the Quebec labour market during the forecast period. The market should be viewed from a more pan-Canadian perspective, particularly where exploration is concerned. More than 80% of Canada's petroleum engineers are working in Alberta. Prospects in this group depend on the world price for crude oil and the demand for and price of other energy sources. In the mid 1980s, energy saving measures and other factors caused a drop in energy prices and reduced the level of exploration and operation of oil and gas wells. In Canada, increased investment in energy projects may stimulate the creation of jobs during the second half of the decade. Aptitudes in chemistry, geology and good communication skills are in demand. Early in their careers, petroleum engineers spend a great deal of time at drilling sites or processing plants that are located in remote regions.

5. EDUCATION AND SKILLS

A university degree in mining or geological engineering is required. Petroleum engineering is not taught in Quebec, but programs are offered at the University of Alberta and at the University of Calgary.

6. SALARY

According to the 1986 census, the average salary of petroleum engineers working full time was $41,417.

AEROSPACE ENGINEERS 2155

Examples: Aerospace Engineer, General Engineer, Flight Test Engineer, Flight Support Engineer, Design and Development Engineer, Aerodynamics Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,440	2,505	1,065	515	1,580

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
15	-	-	420	435

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.2	6.0	Under 25 years	-	-	Full-time	-	98.8
Males	98.8	94.0	Over 54 years	-	-	Part-time	-	1.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (68)
- Aircraft & Aircraft Parts (68)

Transportation (14)
- Air Transport (12)
- Serv. Incidental to Air Trans. (2)

Electrical Machinery Man. (11)
- Communication Equip. (11)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. Employment in this occupational group is more subject to variations than other engineering specialties because of the fluctuations characterizing the aerospace industry. On average, however, the outlook appears to be relatively bright for this group. Technological advances and changes in the regulations could have a positive effect on the demand for aerospace engineers. Concern about increased air security has prompted regulatory changes affecting the aviation industry. This situation could increase the demand for the expertise of aerospace engineers because of the different designs required for aircraft and aircraft parts and the changes that must be made to older aircraft. The modifications associated with the application of new aircraft technologies require engineers with a knowledge of information technologies, expert systems, metals, composite metals and electronic components. The development of such software packages as those applied to maintenance, is an area that could provide interesting employment opportunities. Technological changes have affected the tasks of these engineers but have had very little effect on their numbers. The increasingly widespread use of computer-assisted design means that knowledge of this work tool is a major asset for these professionals.

5. EDUCATION AND SKILLS

Many aerospace engineers have a diploma in mechanical, aeronautical or aerospace engineering. At present, there is no recognized program in aerospace engineering available in Canada, though courses in this area are offered as electives in numerous mechanical engineering or science programs. Membership in the Order of Engineers is mandatory for those who wish to work as engineers and use the title. Two years' experience under the supervision of an engineer who is already a member of the Order is necessary.

6. SALARY

According to the 1986 census, the average salary of aerospace engineers working full time was $39,704.

ARCHITECTS AND ENGINEERS, NOT ELSEWHERE CLASSIFIED (PLUS AGRICULTURAL ENGINEERS) 2159

Examples: Ceramics Engineer, Geological Engineer, Forest Engineer, Naval Architect and Engineer, Agricultural Engineer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,210	4,080	870	650	1,520

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
135	-	-	2,020	2,155

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	94.6	Under 25 years	-	-	Full-time	-	96.8
Males	-	5.4	Over 54 years	-	-	Part-time	-	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (43)
- Eng. & Scient. Services (41)
- Mgmt. Cons. Off. (2)

Gov't Service (11)
- Other Federal Service (2)
- Provincial Service (8)
- Local Gov't Service (1)

Forestry (7)
- Logging (4)
- Forestry Services (3)

Pulp and Paper (3)
- Pulp and Paper Mills (3)

Electrical Machinery Ind. (3)
- Communication Equip. (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, and the labour supply should exceed the demand. Growing concern on the part of the public and government about environmental protection should boost job prospects for forest engineers. These engineers are increasingly called on to manage forests by taking into account all of the forest's resources. A new area of expertise is opening up: integrated resources management, including silviculture, harvest and production activities. The establishment of access paths, their maintenance, the management of forest development sites and, as a result of the new law, the reforestation of cutting zones, are all activities in relation to which forest development companies have no alternatives. Consequently, the demand for forest engineers should remain steady. New technologies may encourage more intensive research in such promising sectors as silviculture, biotechnology, artificial renewal of forests, genetic science, biomass production, remote sensing, forest protection and computer forestry applications.

4. LABOUR MARKET TRENDS (cont'd)

The increasingly widespread use of computerized geographic information systems (GIS) in forest management is making the tasks of engineers easier. These systems add computerized maps to forest management, planning and inventory software. The resulting information combinations make it possible for engineers to quickly access information on a particular land area and make the required modifications without doing everything manually. Knowledge of these computer tools is an asset for engineers. The demand for naval architects and engineers depends on the government's orders for ships. These engineers are few in Canada and it appears that the market will remain very small. The outlook for agricultural engineers is related to the demand for agricultural equipment, which depends on the growth of the agricultural sector. The outlook appears bright in this area. Research and development in the farm mechanization sector could spur job prospects for these engineers. Their expertise, both in hydraulics and in land management is still in demand. New fields of activity such as private consultations in agriculture, agri-food, farm management and rehabilitation for the farming of damaged sites have grown in scope. The sectors of rural construction and habitat control for animals and plants are growing. International development may continue to create openings for rural engineering specialists. The demand for geological engineers is directly related to the metals, oil and gas market. Because of low metal prices, the employment outlook for the latter may remain dim. An aptitude for mathematics and sciences as well as an ability to communicate are assets for aspiring engineers.

5. EDUCATION AND SKILLS

Entry to this occupational group requires university training in an engineering discipline. Membership in the Order of Engineers of Quebec is mandatory in order to work as an engineer and to use the title. Candidates must work for two years under the supervision of an engineer who is already a member of the Order before they are granted professional recognition.

6. SALARY

According to the 1986 census, the average salary of engineers working full time was $35,028, while agricultural engineers earned $32,959.

SURVEYORS 2161

Examples: Surveyor Helper, Marine Surveyor, Pipeline Surveyor, Topographic Surveyor, Instrument Man, Stake Person

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,370	3,235	-135	395	260

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
560	200	290	-	1,050

OTHER IMPORTANT REQUIREMENTS

These occupations are affected by technological change.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.3	5.4	Under 25 years	33.0	-	Full-time	95.7	96.2
Males	96.7	94.6	Over 54 years	4.6	-	Part-time	4.3	3.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (40)
- Scientific Studies and Services (40)

Construction Ind. (20)
- Building Construction (2)
- Highway, Bridge and Street Construction (12)
- Other Construction (3)
- Special-trade Contractors (3)

Gov't Service (17)
- Other Federal Service (2)
- Provincial Service (8)
- Local Gov't Service (7)

Transportation (6)
- Highway and Bridge Maintenance (6)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate well below the average given the outlook in the public administration and construction sectors. Employment prospects will result solely from the requirement to replace employees in existing jobs. The labour supply may exceed the expected demand. New technologies have had an impact on surveying work. Technological innovations make it possible to take more precise measurements more rapidly. Computers can be used to analyse field measurements and to trace maps and charts. Repetitive tasks such as correcting and altering drawings, filing, copying and making working drawings have been eliminated. Qualifications are being raised, especially with respect to the use of these new technologies. New surveying techniques have had the effect of increasing productivity and therefore diminishing demand for these professionals.

4. LABOUR MARKET TRENDS (cont'd)

Aerial surveyors have been particularly affected by technological changes. Remote-operated measuring devices and navigation satellites allow a precise study of the earth. Computer-assisted design systems are used to group data taken from aerial photographs, and plans and maps are stored in memory.

Surveyors will be increasingly required to combine technical expertise in natural resources management with land information. Knowledge of natural resources management is an asset for surveyors. Knowledge of computerized information systems with spatial reference is increasingly sought after. A large number of those who stop practising this occupation are promoted to supervisory positions in management or administration. Surveyors may be required to work in remote regions. Also, a large part of their work is done in the summer months. Employment opportunities follow a seasonal pattern. Accredited land surveyors are often independent workers who own their own surveying firm.

5. EDUCATION AND SKILLS

The qualifications required vary with the type of job and the region. A university degree in surveying, geodesy or civil engineering is generally required. Membership in the Order of Surveyors of Quebec is mandatory to practise the occupation. For surveying operators (topography) and surveyor helpers, a secondary vocational course in surveying is sufficient. Those with a Diploma of Collegial Studies usually have a specialization in surveying or engineering.

6. SALARY

According to the 1986 census, the average salary of surveyors working full time was $25,955.

DRAUGHTSMEN 2163

Examples: Civil Engineering Drafter, Technical Illustrator, Cartographer, Aeronautical Drafter, Architectural Drafter, Electronic Cartographer, Mechanical Drafter, Computer-Aided Design Drafter

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8,005	6,780	-1,225	1,045	- 180

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
670	1,095	3,970	-	5,735

OTHER IMPORTANT REQUIREMENTS

Knowledge of computer-aided design is an asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	14.7	17.7	Under 25 years	27.4	-	Full-time	98.2	97.9
Males	85.3	82.3	Over 54 years	7.0	-	Part-time	1.8	2.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (34)
- Architects' Off. (7)
- Scientific Studies and Services (26)
- Other Services (1)

Gov't Service (10)
- Other Federal Service (2)
- Provincial Service (3)
- Local Gov't Service (5)

Construction Industry (5)
- Building Construction (2)
- Special-trade Contractors (3)

Electric Power, Gas and Water Utilities (4)
- Electric Power (4)

Machinery Industries (4)
- Misc. Machinery and Equip. Manufacturers (4)

Electrical Products Industries (4)
- Communications Equip. (4)

Transportation Equip. Ind. (3)
- Aircraft and Aircraft Parts Manufacturers (3)

4. LABOUR MARKET TRENDS

The number of employees in these occupations is expected to decline over the next few years, and the labour supply should exceed the demand. The concentration of these jobs in the business services and manufacturing industries sectors makes this occupational group dependent on the economic conditions in these sectors. Computer-aided design and drafting (CADD) has had an impact on the methods being used to design new products. Three-dimensional systems facilitate the design of complex forms and machines. Repetitive tasks such as correcting and altering drawings, filing, copying and making working drawings have been eliminated. Tracing is generally the most automated phase. Technological innovations in the field are changing the labour market for drafters. New design

4. LABOUR MARKET TRENDS (cont'd)

techniques have made it possible for drafters to increase their work output considerably, and this could cause the demand the demand for these specialists to decline, despite the growing requirement for drafting services. Demand in this area will be increasingly for design drafters and a surplus of tracers and less qualified drafters may be expected. Consequently, more advanced skills will be required of drafters in the area of design, production of refined graphics and more precise drawings. Job prospects are better for more qualified drafters who are familiar with computer-aided design and drafting systems.

The introduction of digital cartography has made the tasks of cartographers easier. The computerized geographic or spatial reference information system (GIS or SRIS) makes it possible to manipulate plans and maps on computer and to add useful data to them (e.g. population density). Since modifications to plans and maps no longer need to be done manually, the tasks of cartographers are made considerably easier. Geographic information systems are gradually making inroads into the cartography departments of large companies and of municipalities. Applications for forest management, gas, electricity and telecommunications networks, fire detection and road management are becoming more widespread. Knowledge of GIS is becoming an important asset for cartographers.

5. EDUCATION AND SKILLS

A community college diploma in the relevant field is generally required. For drafters working with computer-aided design, a Diploma of Collegial Studies in architectural technology, civil engineering, mechanics, building or mechanical engineering technology are ways of accessing these occupations. Most workers with a university degree have studied architecture or engineering in particular. Knowledge of computer-aided drafting systems is an asset.

6. SALARY

According to the 1986 census, the average salary of technical drafters working full time was $26,473.

ENGINEERING TECHNOLOGISTS AND TECHNICIANS (PLUS 2164 - ARCHITECTURAL TECHNOLOGISTS AND TECHNICIANS)

2164-2165

Examples: Aerospace Engineering Technician, Electronic and Electrical Engineering Technician, Chemical Technician, Environmental Clean-up Technician, Quality Control Technician, Nuclear Engineering Technologist, Electronic Technician

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
16,500	21,105	4,605	1,805	6,410

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,610	175	2,925	425	5,135

OTHER IMPORTANT REQUIREMENTS

Knowledge of new technologies is required.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	5.0	7.6	Under 25 years	28.3	-	Full-time	98.6	98.0
Males	95.0	92.4	Over 54 years	4.6	-	Part-time	1.4	2.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (11)
- Eng. and Scientific Serv. (11)

Elec. Power, Gas & Water Utilities (10)
- Electric Power (10)

Gov't Service (8)
- Defence Services (1)
- Other Federal Service (1)
- Provincial Service (3)
- Local Gov't Serv. (3)

Electrical Prod. Industry (8)
- Communications Equip. (8)

Construction Industry (5)
- Highway, Bridge & Street Construction (1)
- Other Construction (1)
- Provincial Service (1)
- Local Gov't Service (3)

Wholesale Trade (5)
- Electrical Machinery (3)
- Machinery & Equip., n.e.c. (2)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. More widespread use of computer and other electronic equipment in both the production process and the automated office should ensure good prospects for electrical and electronic engineering technicians. Demand for these technicians should be maintained by the need to repair and maintain this increasingly complex equipment. Qualifications in plan reading and in the application of electricity, electronics, micro-electronics and robotics to production and office automation equipment are in demand. In servicing CAD/CAM and robotic equipment, there is a growing trend toward specialization, and this trend should continue as the range of electronic equipment broadens and the equipment becomes more sophisticated.

4. LABOUR MARKET TRENDS (cont'd)

Qualifications in robot repair and maintenance are increasingly being sought by employers wishing to minimize as much as possible the amount of time during which this costly equipment is immobilized and unproductive. Electronic technicians must be willing to continually upgrade their knowledge; improvements in equipment require a constant effort to keep up to date, particularly in the fields of microprocessing, digital circuits, servomechanisms, video equipment, programmable controllers, telecommunications and data transmission. Technicians specialized in servicing robotic equipment should have a knowledge of electronics, industrial electricity, pneumatics, hydraulics and a wide range of automated equipment. Understanding of the process performed by robots is also necessary. In the case of industrial engineering technicians, demand should be spurred by investment in the motor vehicle industry and the replacement market for public transit equipment. In the long term, economic conditions in the aerospace industry should stimulate demand for aerospace technicians. The ability to read technical drawings is essential. New aircraft technology, particularly in the area of avionics, requires specific technical skills. Technological advances in diagnostic, testing and inspection techniques, particularly non-destructive testing, automatic test equipment, avionic systems and expert systems make the work of these technicians easier. Knowledge of these systems is an therefore an asset. The application of new manufacturing processes and new technologies should generate a need for mechanical engineering technicians qualified in computer applications for business, maintenance mechanics, computer-aided drafting and computer-aided manufacturing (CAD/CAM). The demand for architectural technicians should slow down since employment in this occupation is linked to activity in the construction sector. The anticipated slowdown in residential construction will have an adverse effect on this occupational group, with the exception of the renovation market. However, these technicians can compete directly with architects and have an advantage for certain types of work.

The introduction of computer-aided drafting should change the qualifications required of this occupational group. The industry stresses the need for employees to have good interpersonal skills for dealing with customers, knowledge of business practices, and effective communication skills. Soldering and unsoldering skills are also required. Candidates with managerial and supervisory skills have an advantage.

5. EDUCATION AND SKILLS

A community college diploma in the relevant specialty is required. Training in industrial safety and accident prevention is an asset.

6. SALARY

According to the 1986 census, the average salary of engineering technologists and technicians working full time was $24,495.

MATHEMATICIANS, STATISTICIANS AND ACTUARIES 2181

Examples: Statistician-Analyst, Insurance Company Actuary, Sampling Expert, Demographer, Finance Statistician, Quality Control Analyst

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,465	1,740	275	305	580

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
40	-	-	780	820

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	26.7	33.2	Under 25 years	13.2	-	Full-time	98.5	95.4
Males	73.3	66.8	Over 54 years	8.1	-	Part-time	1.5	4.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (23)
- Other Federal Serv.(11)
- Provincial Serv. (11)
- Local Gov't Serv. (1)

Education (5)
- Universities and Colleges (5)

Business Services (21)
- Scientific Studies and Services (1)
- Management Consulting Services (14)
- Other Services (6)

Transportation (5)
- Railway Transport (5)
- Financial Industries (21)

4. LABOUR MARKET TRENDS

Employment should grow at about an average rate. The demand for mathematicians, actuaries and statisticians will depend on the outlook for the finance, insurance, real estate, public administration and business services sectors. Budget restrictions could dim the employment outlook for public administration. Given the increased use of sub-contracting services, the business services sector provides better opportunities. The employment outlook for actuaries should be bright. Nonetheless, the increase in the number of actuaries may give rise to a progressively more saturated market in the traditional area of life insurance. Deregulation of financial services tends to expand the role of actuaries, as their expertise is useful in various types of financial services. With the increased competition in the area of insurance and financial products and the proliferation of new insurance products, the actuary's tasks extend to the marketing of insurance. The growing demand in the field of risk management opens up new areas for actuaries: pension funds, remuneration, fringe benefits, cash

4. LABOUR MARKET TRENDS (cont'd)

management, investment strategy and portfolio management. For this group of professionals a knowledge of computer tools in their area is an asset.

5. EDUCATION AND SKILLS

A university degree is generally required for these occupations. To be an actuary, a bachelor's degree in an actuarial program is preferable. To be a recognized actuary, it is necessary to have a fellowship in the Canadian Institute of Actuaries and to have passed the series of ten exams set by the institute. The university program prepares students for the first five exams.

6. SALARY

According to the 1986 census, the average salary of mathematicians, statisticians and actuaries working full time was $36,662.

SYSTEMS ANALYSTS, COMPUTER PROGRAMMERS AND RELATED OCCUPATIONS

2183

Examples: Computer Programmer, Computer Technician, Automated Graphics Specialist, Simulation Systems Analyst, Accounting Methods Analyst, Machine-Tool Numerical Adjustment Programmer, Mini- and Micro-computer Specialist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
32,900	51,547	18,645	5,770	24,415

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,200	305	5,925	9,980	16,210

OTHER IMPORTANT REQUIREMENTS

The software design market offers good opportunities.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	34.1	35.9	Under 25 years	27.8	-	Full-time	98.1	96.3
Males	65.9	64.1	Over 54 years	1.8	-	Part-time	1.9	3.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (24)
- Computer Services (21)
- Scientific Studies and Services (2)
- Management Consulting Services (1)

Gov't Service (16)
- Other Federal Service (4)
- Provincial Service (10)
- Local Gov't Service (2)

Finance and Insurance (11)
- Banks (5)
- Insurers (6)

Education (6)
- Elem. and Sec. Schools (2)
- Universities and Colleges (4)

Transportation (4)
- Railway Transport (4)

Communications (3)
- Telephone Systems (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. Widespread use of computers, robots and numerically controlled tools should spur demand for these professionals. The requirement will be greater for highly qualified systems analysts and computer programmers, for those who can train users and for sales representatives. Less qualified candidates may have difficulty entering the labour market, all the more so since the number of applicants for these types of jobs will remain very high. The demand will be greater for software designers and less for lower-skilled programmers, who face a more limited market. The software market is changing the computer market. Now, it is the software market that is ahead of the computer equipment market rather than the reverse. Opportunities may open up in certain areas of software design. These areas include hospital and

4. LABOUR MARKET TREND (cont'd)

medical management, billing by health professionals, land use planning, cartography, public safety, inventory management, production management (CAD, CAE), technologies related to databases, especially with respect to data accuracy and computer security, expert systems, the relationship between micro-computers and mainframes, project management, personnel and budget management and multi-user systems.

The introduction of "software packages," ie fully prepared applications software, is cutting into demand, especially from small businesses, which tend to buy these less-expensive systems. SMBs equipped with micro-computers are seeking versatile candidates who are skilled in computer repairs, software installation, computer maintenance, user training and possibly in the writing of small application programs. In SMBs the demand appears to be greater for college-level analysts than for programmers.

Computer consulting offices may open up opportunities, particularly for systems analysts and programmers who can train personnel and do customized programming.

The information industry will continue to provide openings in such related occupations as database manager, information systems engineer and information scientist. There's new demand in areas such as software testing, power supply, radio frequency, microtechnology and artificial intelligence. Sales is also an area in which opportunities are opening up.

In addition to technical skills, personal qualities such as an ability to communicate, maintain good personal relations and adapt are also sought-after.

Overall, technological progress has been a boon to computer programmers and systems analysts. The availability of less expensive information systems has made it possible to implement specialized and easy-to-use applications and has created new job openings for database managers, programmers, information specialists and information systems and software engineers.

5. EDUCATION AND SKILLS

A community college diploma in computer science is required, and a university degree in the field is an advantage and is necessary for some jobs. Generally, training for a company's specific computer product involves training courses with the supplier. Managerial skills and familiarity with the company's organization and business objectives are increasingly in demand. Skills in user training are also sought.

6. SALARY

According to the 1986 census, the average salary of analysts, computer programmers and those in related occupations who were working full time was $30,070.

ECONOMISTS 2311

Examples: Market Study Specialist, Agricultural Economist, Development Economist, Labour Economist, Economic Adviser, Market Analyst, Advertising Analyst

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,225	5,070	845	845	1,690

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
230	-	-	1,430	1,660

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%) :

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	22.0	29.5	Under 25 years	6.8	-	Full-time	97.4	95.7
Males	78.0	70.5	Over 54 years	8.5	-	Part-time	2.5	4.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (41)
- Other Federal Serv. (11)
- Provincial Gov't Serv. (27)
- Local Gov't Serv. (3)

Business Services (13)
- Accountants' Off. (1)
- Scientific Studies and Services (2)
- Management Consulting Services (7)

Finance, Insurance, and Real Estate (8)
- Banks (5)
- Insurance Carriers (2)
- Insurance and Real Estate Agencies (1)

Transportation (3)
- Railway Transport (3)

Electric Power, Gas and Water Util. (3)
- Electric Power (3)

4. LABOUR MARKET TRENDS

Employment should grow at a rate slightly above the average. The demand for economists will depend on job opportunities in public administration and in the business services sector where most economists are employed. Job openings will be more limited in the public administration sector owing to budget cuts. Nonetheless, services in the private sector are increasingly being solicited by different levels of government and may provide better employment prospects for economists. Knowledge of and experience in quantitative and statistical analysis and in computer science are in demand. The outlook for specialists in natural resources, transportation and international economics appears to be more promising. Opportunities may open up in tax planning, foreign exchange, management and writing. With the introduction of computer technology and software packages, the duties of economists are changing. As mathematical calculations and the processing of large volumes of data are being taken over by the computer, analysis and the preparation and writing of texts and reports are assuming more importance.

5. EDUCATION AND SKILLS

A university degree with a specialization in economics is generally required. However, advanced studies are increasingly becoming an asset.

6. SALARY

According to the 1986 census, the average salary of economists working full time was $36,561.

SOCIOLOGISTS, ANTHROPOLOGISTS AND RELATED SOCIAL SCIENTISTS 2313

Examples: Anthropologist, Criminologist, Social Ecologist, Archaeologist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
680	830	150	110	260

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
145	-	-	-	145

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	41.3	47.9	Under 25 years	12.0	-	Full-time	95.3	91.9
Males	58.7	52.1	Over 54 years	2.8	-	Part-time	4.7	8.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (34)
- Other Federal Serv. (14)
- Provincial Serv. (17)
- Local Gov't Serv. (3)

Health and Social Services (15)
- Hospitals (3)
- Other Health Care Institutions (12)

Education (16)
- Elem. and Sec. Schools (1)
- Universities, Colleges (14)
- Libraries and Museums (1)

Business Services(15)
- Accounting Services (1)
- Scientific Studies and Services (6)
- Management Consulting Services (3)
- Other Services (5)

4. LABOUR MARKET TRENDS

Employment should grow at a rate slightly above the average, and an oversupply of labour is expected. The increased demand for social services may give rise to new job openings. The outlook is better for sociologists who have experience in quantitative analysis. The surplus of sociologists and highly qualified candidates make the market very competitive and graduates with only a bachelor's degree will have difficulty finding jobs as sociologists.

5. EDUCATION AND SKILLS

A university degree in sociology, criminology or anthropology is usually required. A master's or doctoral degree are necessary for some positions.

6. SALARY

According to the 1986 census, the average salary of sociologists, anthropologists and related specialists working full time was $31,898.

PSYCHOLOGISTS 2315

Examples: Child Development Consultant, Social Psychologist, Ergonomist, Psychometrician, Clinical Psychologist, Psychologist (other)

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,845	4,870	1,025	885	1,910

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
185	-	-	2,640	2,825

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	52.3	58.2	Under 25 years	7.4	-	Full-time	87.6	78.9
Males	47.7	41.8	Over 54 years	3.7	-	Part-time	12.4	21.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (56)
- Hospitals (21)
- Other Health Care Inst. (15)
- Physicians' Off. (2)
- Off. of Para-Medical Personnel (15)
- Diagnostic Services n.e.c. (3)

Education (35)
- Elem. and Sec. Schools (28)
- Post-Secondary Education (2)
- Universities and Colleges (5)

4. LABOUR MARKET TRENDS

Employment should grow at an above-average rate. The demand for psychologists is stimulated by constantly changing social and economic conditions. Those specialized in clinical psychology should enjoy the best employment opportunities. The neuropsychology sector provides interesting openings. With the growth of alternative forms of therapy and their gradual integration into the health system, the demand for psychologists may be boosted, especially in the areas of visualization, stress management, touch therapy, etc. The aging population could spur the demand for psychologists working in the area of gerontology. The impact of technological changes on the labour force are causing new markets to open up in companies. Employee assistance, personnel training or work organization programs may require the expertise of psychologists.

4. LABOUR MARKET TRENDS (cont'd)

Increased concern on the part of the public about issues related to metal health may spur the expansion of the mental health intervention and prevention sectors, and so increase the use of the professional services of psychologists.

The increased concern with detecting learning disorders very early could increase the demand for other types of psychologists in schools. Employment will increasingly include contract or part-time work.

Generally speaking, psychologists may change their area of specialization relatively easily since it is up to them to decide whether or not to continue their training.

5. EDUCATION AND SKILLS

A master's degree in psychology is necessary and a doctorate in psychology is frequently required. Membership in the Quebec Association of Psychologists is mandatory for those who wish to become recognized psychologists. Clinical psychologists and counsellors must also complete a training period and an internship.

6. SALARY

According to the 1986 census, the average salary of psychologists working full time was $35,421.

OCCUPATIONS IN SOCIAL SCIENCES, N.E.C. 2319

Examples: Urban Geographer, Political Scientist, Urban and Regional Planner, Urban-Renewal Planner, Urban Planning Technician

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,260	2,440	180	600	780

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
250	45	-	500	795

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	47.9	Under 25 years	-	-	Full-time	-	85.7
Males	-	52.1	Over 54 years	-	-	Part-time	-	14.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (31)
- Other Federal Service (12)
- Provincial Service (14)
- Local Gov't Service (5)

Health and Social Services (6)
- Hospitals (2)
- Related Health Care Inst. (3)
- Misc. Health Services (1)

Business Serv. (16)
- Advertising Services (2)
- Eng. and Scient. Services (5)
- Mgmt. Cons. Offices (2)
- Misc. Business Services (7)

Misc. Services (9)
- Labour Org. (2)
- Misc. Services, n.e.c. (7)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Job openings will result mainly from attrition of the present labour force. The use of new software in the area of urban planning could facilitate the work of professionals such as geographers, urban planning technicians, urban planners and other urban planning specialists. Geographic information systems or spatial reference information systems, combining computer technology and geographic data, could change land management work. Plans and maps can be manipulated on computer and complementary information can be added to them. Decision-making concerning the type of planning that will be implemented can therefore be speeded up. For land-use planners, knowledge of computer-aided drafting is an asset. With growing public concern about quality of life and the urban environment, the tasks of urban planners could shift toward education campaigns directed at the public and government. Skills in communication,

4. LABOUR MARKET TRENDS (cont'd)

formulating issues in layman's terms, leadership, and the ability to stimulate participation in public debates on land use are assets for these professionals.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a specialized university degree. In some occupations a master's degree is necessary.

6. SALARY

According to the 1986 census, the average salary of workers in this group who were employed full time was $31,898.

SOCIAL WORKERS

2331

Examples: Geriatric Social Worker, Parole Officer, Case Supervisor, Family Counsellor

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,540	11,335	1,795	2,675	4,470

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,040	-	520	2,815	4,375

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	61.8	68.5	Under 25 years	4.4	-	Full-time	91.4	88.7
Males	38.2	31.5	Over 54 years	7.7	-	Part-time	8.6	11.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Serv. (61)
- Hospitals (6)
- Other Health Care Inst. (51)
- Diagnostic Serv., n.e.c. (4)

Gov't Serv. (31)
- Other Federal Service (6)
- Provincial Service (20)
- Local Gov't Serv. (5)

4. LABOUR MARKET TRENDS

Employment should grow at an average rate, and labour supply is expected to exceed demand. Job prospects depend to a large degree on social programs since most jobs are in the public administration and health/welfare sectors. The announced reform in health services should bring about increased home- care services. The trend toward deinstitutionalization and non-institutionalization should boost the demand for social workers in the area of home maintenance and health related resources for the elderly, maladjusted adults, disabled persons and psychiatric patients. The tasks of social workers at the level of government are increasingly shifting toward protection and their role toward that of legal administration and protection officer. Knowledge of the law is an asset. The private services sector is also starting to provide job openings. Volunteer work is one way of acquiring the skills needed to pursue a career in this area. Although not mandatory, social workers may register themselves with a licensing body.

4. LABOUR MARKET TRENDS (cont'd)

Under the combined effect of the lower birth rate and increased life expectancy, the aging of the population should lead to a greater need for social services. Jobs should open up for social workers specialized in gerontology.

A saturated public sector has meant that more and more new social work graduates are turning to the community sector. Part-time or occasional work is tending to increase at the expense of full-time permanent jobs.

5. EDUCATION AND SKILLS

A university degree in social work, sociology, criminology or psychology is usually required. A master's degree in social work may be necessary for administrative positions. A diploma in gerontology is granted in about 20 CEGEPs and a 30-credit certificate program is offered in most universities. At the college level, it is mostly people who wish to work with the elderly who enrol in the program, while at the university level the program is primarily addressed to health care professionals.

6. SALARY

According to the 1986 census, the average salary of social workers working full time was $27,906.

OCCUPATIONS IN WELFARE AND COMMUNITY SERVICES 2333

Examples: Community Service Worker, Recreation Leader, Youth Club Supervisor, Recreation Specialist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
13,165	17,150	3,985	3,540	7,525

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,055	0	250	1,885	3,190

OTHER IMPORTANT REQUIREMENTS

Useful skills may be acquired through volunteer work.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	59.4	65.0	Under 25 years	51.2	-	Full-time	97.6	79.5
Males	40.6	35.0	Over 54 years	4.7	-	Part-time	2.4	20.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (36)
- Hospitals (5)
- Related Health Care Inst. (27)
- Diagnostic Services, n.e.c. (4)

Gov't Service (21)
- Other Federal Service (3)
- Provincial Service (4)
- Local Gov't Service (14)

Accommodation and Food Serv. (8)
- Camping Grounds and Trailer Parks (8)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Current health policies advocating home care and services for the elderly, disabled persons, maladjusted adults and psychiatric patients will increase the demand for specialized personnel working with these groups. For those in occupations related to social work, volunteer work makes it possible to acquire valuable skills and experience. Recreational opportunities are opening up in new workplaces such as factories, private colleges, day care centres and sporting goods retail outlets. A knowledge of management is an asset, given that recreational leaders are called on to manage activities, equipment and sometimes personnel. Recognized qualifications in first aid, lifesaving and a mastery of indoor and outdoor sports are assets for these workers. Many jobs are part time or temporary, often evenings or weekends. Mobility is very important.

5. EDUCATION AND SKILLS

Entry to this occupational group usually requires a community college diploma. For recreation technicians, recreation leaders and camp counsellors a community college diploma in recreation technology is required. For social services assistants, a community college diploma in social work technology is preferable. For household workers, a secondary school diploma in home care assistance is necessary. For recreation specialists, a bachelor's degree in recreology is preferable. Some jobs require a university degree in social work. Volunteer work is one way of acquiring useful skills.

6. SALARY

According to the 1986 census, the average salary of welfare and community service workers working full time was $23,431.

LAWYERS AND NOTARIES 2343

Examples: Lawyer, Notary

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
10,705	12,240	1,535	2,305	3,840

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
200	0	50	1,500	1,750

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.5	25.3	Under 25 years	6.0	-	Full-time	95.6	97.0
Males	81.5	74.7	Over 54 years	8.3	-	Part-time	4.4	3.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (79)
- Lawyers' & Notaries' Off. (79)

Gov't Service (12)
- Other Federal Service (2)
- Provincial Service (9)
- Local Gov't Service (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. The number of cases in business law, corporate law, securities law, real estate law and international arbitration should increase, thereby improving employment prospects for lawyers specialized in these fields. Other dynamic sectors are constitutional law, consumer protection and family law. The complexity of business regulations, the increase in the patenting of technological innovations, and the definition of rights under family law and the new constitution are all factors that may increase job prospects for lawyers. For lawyers working in these fields, legislative changes will have an impact on the demand for the legal services they are called on to provide. Preventive law could assume a greater portion of lawyers' practices, and their role as negotiators could become more prominent. As data processing systems are used more and more for storing information on legal cases, the ability to use computers is becoming increasingly necessary for lawyers. The role of notaries may shift increasingly toward that of legal counsellor as the need grows for legal security in transactions between individuals and groups.

5. EDUCATION AND SKILLS

Entry to the occupation of lawyer requires a bachelor's degree in law, followed by an eight-month bar admission course, and articling in a legal firm. Membership in the Bar of Quebec is mandatory to be able to practise as a lawyer. Notaries must have a university degree and be members of the Chamber of Notaries to be able to practise the profession.

6. SALARY

According to the 1986 census, the average salary of lawyers and notaries working full time was $39,456.

LIBRARIANS, ARCHIVISTS AND CONSERVATORS 2351

Examples: Librarian, Cataloguer, Archivist, Bibliographer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,435	5,885	1,450	2,135	3,585

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
285	-	425	1,185	1,895

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	74.1	76.3	Under 25 years	3.1	-	Full-time	86.5	88.1
Males	25.9	23.7	Over 54 years	14.9	-	Part-time	3.5	11.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (46)
- Elem. and Sec. Schools (11)
- Post-secondary Inst. (4)
- Universities and Colleges (18)

Health and Social Services (18)
- Hospitals (16)
- Related Health Care Inst. (2)

Gov't Service (18)
- Other Federal Service (3)
- Provincial Service (6)
- Local Gov't Service (9)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Employment in this occupational group is little affected by economic conditions, but is more sensitive to government spending policies given that most of the jobs in this group are found in government sectors. Chances for employment have been curtailed somewhat in public and educational institutions by government budgetary restraints. The projections given above could be underestimated. Prospects are best for librarians specializing in scientific and technical areas, particularly in research libraries. Non-traditional fields of activity are opening up such as database management, information management and software libraries and may provide job openings. Computer technology has given rise to such new jobs as information broker whose expertise is akin to librarians' expertise and which may create openings for the latter, in the capacity of employees or self-employed workers. Knowledge of computerized information/index systems is in demand since libraries are becoming increasingly computerized. A number of the jobs that are opening up for librarians are part time or require the services of freelancers. Prospects are good for archivists, who work mainly with unpublished materials in both the public and private sectors. Employment opportunities are good for conservators, who are engaged in the physical conservation of documents, as there are few qualified persons to fill the

4. LABOUR MARKET TRENDS (cont')

available positions. Experience in the conservation of the type of collection in their museums or galleries is in demand among employers. Experience in supervision is also an asset since conservators are often required to supervise the storage and installation of artifacts. In general, promotion to the position of conservator supervisor is attained through the positions of assistant conservator and conservator. Conservators may work on their own or establish a consulting firm when they have acquired enough experience and recognition in the conservation milieu. New computer-related technologies and various other technologies have an impact on the tasks of conservators. Knowledge of computer tools in their field is an asset and facilitates conservation research thanks to networks that make it possible to group together permanent public collections.

5. EDUCATION AND SKILLS

A university degree in arts, social sciences or another field and a master's degree in library science are required. Knowledge of computerized cataloguing systems is an asset. The position of conservator requires a minimum of a bachelor's degree and often, a master's degree. General museum experience is an asset. It is recommended that archivists have a master's or a doctoral degree.

6. SALARY

According to the 1986 census, the average salary of librarians, archivists and conservators working full time was $26,381.

TECHNICIANS IN LIBRARY, MUSEUM AND ARCHIVAL SCIENCES 2353

Examples: Paintings Restorer, Document Restorer, Taxidermist, Artifact and Fossil Restorer, Museum Cataloguer, Conservation and Restoration Technician

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,530	1,645	115	515	630

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
120	-	55	125	300

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	77.9	79.8	Under 25 years	18.9	-	Full-time	92.1	90.2
Males	22.1	20.2	Over 54 years	11.2	-	Part-time	7.9	9.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (59)
- Elem. and Sec. Schools (17)
- Post-sec. Inst. (5)
- Universities and Colleges (17)
- Libraries and Museums (20)

Gov't Service (24)
- Other Federal Service (6)
- Provincial Service (10)
- Local Gov't Service (8)

Health and Social Services (5)
- Hospitals (5)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Jobs will be created mainly through attrition of the present labour force. In small libraries, library technicians execute a range of tasks designed to assist librarians, while in the larger libraries, they are in charge of a particular area such as consultation, cataloguing or book circulation. For a number of years now, new technologies have had an impact on the tasks of these workers. New methods have made it possible to decrease cataloguing expenses, speed up publication distribution and automate most of the library systems. Other technologies such as bar code surveillance make it possible to identify users, while scanning devices help to control and manage stocks by reading the bar codes and entering data automatically. Knowledge of these systems is essential for those wishing to enter this occupational group. The effect of new technologies on the volume of employment is not certain. It is possible that computerized cataloguing and loan systems will open up new jobs for these technicians, but

4. LABOUR MARKET TRENDS (cont'd)

as the public becomes more adept at using these systems, employment growth may slow down, particularly for assistant technicians. Technological changes involving computers and various other technologies will have an impact on museum personnel and, consequently, on museum technicians, particularly in the field of conservation. New technologies are expected to have little effect on the level of employment; rather, it is the qualifications that will be raised. Because of the specialized nature of the recording and classification systems, computers are increasingly being used, and those with a knowledge of microcomputers are in demand, particularly in the larger museums that are likely to acquire computers. In the smaller museums, the wider range of duties and responsibilities require technicians with a general training in a number of specialties. Part-time work is becoming increasingly common in museums.

5. EDUCATION AND SKILLS

A community college diploma in library science technology is generally required. Knowledge of computer cataloguing systems is an asset. For museum technicians, the basic requirement is a community college diploma and often a bachelor's degree in an area relevant to a collection specific to a museum. For paintings, document and artifact restorers, a bachelor's degree in fine arts and a master's degree in restoration, offered in Ontario, or a community college diploma, also offered in Ontario, are necessary. Taxidermy is learnt by apprenticeship.

6. SALARY

According to the 1986 census, the average salary of library, museum and archival technicians working full time was $23,346.

EDUCATIONAL AND VOCATIONAL COUNSELLORS 2391

Examples: Educational Counsellor, Vocational Counsellor

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,380	1,505	125	270	395

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
150	-	-	-	150

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	40.8	44.4	Under 25 years	5.0	-	Full-time	87.0	96.9
Males	59.2	55.6	Over 54 years	6.9	-	Part-time	13.0	3.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (80)
- Elem. and Sec. Schools (60)
- Post-secondary Inst. (10)
- Universities and Colleges (7)
- Education and Related Serv., n.e.c. (3)

Gov't Service (9)
- Other Federal Service (2)
- Provincial Service (7)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Data on projections of the number of graduates are not available. Most of these professionals work in educational institutions and in public administration. The number of jobs in this group depends on school enrolment and government spending. Job prospects could be reduced by generalized budget cuts. However, certain growth factors could offset this situation. At the college and university level, demand for these professionals may rise as ongoing education increases among the over 25 age group. This increased school enrolment could boost the demand for consultation services. The implementation of job equity and affirmative action programs could increase the demand for counsellors who can meet the needs of special clienteles. Unemployment, work adjustment, career changes and preparation for retirement are all areas for public concern which could spur the requirement for consultation services provided by counsellors. Jobs may open up in private practice. The need for educational and vocational counselling could increase in the private sector in the area of human resources services for personnel reorientation, employee training and retraining and career paths for management staff.

5. EDUCATION AND SKILLS

A master's degree in counselling is required. Membership in the Professional Corporation of Guidance Counsellors of Quebec is mandatory to be able to use the title.

6. SALARY

According to the 1986 census, the average salary of educational and vocational counsellors working full time was $37,670.

UNIVERSITY TEACHERS 2711

Examples: Professor, Assistant Professor, Lecturer, Laboratory Demonstrator, Department Chairman

1. LABOUR MARKET FROM 1989 TO 2000

JOBS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,750	11,100	1,350	2,450	3,800

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
435	-	-	775	1,210

OTHER IMPORTANT REQUIREMENTS

Only a limited number of permanent personnel are hired.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	26.9	29.8	Under 25 years	4.8	-	Full-time	96.7	94.7
Males	73.1	70.2	Over 54 years	9.5	-	Part-time	3.3	5.3

3. MAIN CHARACTERISTICS (1986 %)

Education (100)
- Universities and Colleges (100)

4. LABOUR MARKET TRENDS

Given the outlook for the education sector, employment is expected to grow at a slightly below average rate. Growth in this sector is influenced by student enrolments and demographic trends. In the first part of the forecast period, the university population is expected to increase slightly owing to enrolments from other school levels and the expansion of continuing education. Moreover, the tight economic situation and new values favouring education and the acquisition of new skills should prompt young people to remain in school for longer periods of time. In the longer term, the demographic trend should have more of an impact and the growth rate in the number of university students should slow down. This is made all the more likely by the possible reductions in government subsidies and the growing popularity of televised university courses. The demand for university teachers may therefore be adversely affected. Only adult education could maintain its enrolment level.

4. LABOUR MARKET TRENDS (cont'd)

The budget cuts which have had an impact on university education have also affected hiring procedures for university teachers. Lecturers rather than permanent full-time professors are increasingly being hired, particularly for the bachelor's level and certificate programs. Nearly half of the undergraduate courses in various universities are given by lecturers. There is also a considerable increase in the number of substitute and visiting professors as well as professors with salary awards. The aging of the teaching force is made even more pronounced by the fact that permanent staff are not renewed.

Since the average age of experienced labour [illegible] is occupation is relatively high, it is expected that the recruitment of candidates to fill job openings due to attrition may be considerable.

5. EDUCATION AND SKILLS

A master's degree is the minimum requirement. Nonetheless, as competition is becoming increasingly brisk, a doctorate in the relevant specialty is almost indispensable.

6. SALARY

According to the 1986 census, the average salary of university teachers working full time was $46,091.

ELEMENTARY AND KINDERGARTEN TEACHERS 2731

Examples: Kindergarten/Day Care/Pre-Kindergarten Worker, Elementary School Teacher, Kindergarten Teacher

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
41,870	46,500	4,630	10,280	14,910

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,840	450	2,335	9,750	15,375

OTHER IMPORTANT REQUIREMENTS

The demand for teachers is adversely affected by the decline in the population.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	87.5	84.4	Under 25 years	6.0	-	Full-time	97.8	95.2
Males	12.5	15.6	Over 54 years	5.1	-	Part-time	2.2	4.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (88)
- Elem. and Sec. Schools (88)

Health and Social Services (11)
- Other Health Care Institutions (11)

4. LABOUR MARKET TRENDS

Employment should grow at a below-average rate for elementary and preschool teachers, with an oversupply of qualified labour expected over the next few years. The period of decline that the Quebec school system entered following the decrease in the school population, which led to the closing of some schools and a reduction in teaching staff, should continue over the next few years, although at a much slower rate. The decreasing population should continue to have a negative impact on enrolments until the end of the forecast period both at the preschool and elementary levels. The demand for teachers should decrease as a result.

The teaching force is aging, and those who have positions tend to hold them for longer periods of time. The placement of older teachers in vacant positions owing to relocation provisions for surplus teachers makes the employment outlook less promising for young graduates. Furthermore, graduates from previous years who did not enter the profession or who worked in part-time teaching jobs are making the market more competitive.

4. LABOUR MARKET TRENDS (cont'd)

The marked aging the teaching force will lead to a rapid increase in the number of positions vacated by retiring teachers. However, teachers retire around age 55 on average and forecasts indicate that the average age of teachers in 1995 will be 47 years. It would be necessary to wait until the end of the forecast period before vacancies due to retirement will have any significant effect on the demand for young teachers.

Despite the oversupply of teachers at the elementary level, some specialists such as teachers of English as a second language, French as a second language and physical education are very much in demand. Enrolments in these specialties remain low and these positions can be filled only by specialized teachers with a year of training in the subject being taught.

Employment opportunities are opening up outside Quebec owing to the increase in French immersion programs which boosts demand for francophone graduates.

Outside the school systems, physical education, adult education and educational technology are providing new opportunities.

Part-time work in the form of supply teaching and specialized education (music, art) should also be taken into account. Technological progress (computers as advanced educational tools) are improving teaching methods, but technology is not expected to have an impact on the employment situation.

The outlook is positive for day-care workers. Increased participation of women in the job market may boost demand for day-care workers and kindergarten teachers.

5. EDUCATION AND SKILLS

A university degree in education, teacher training, is necessary to teach at the kindergarten and elementary-school levels. For admission to a teacher training program, either a community college diploma, a teaching permit or teaching experience is required. In order to qualify for the two-year probationary period, candidates must be employed either full time or part time by a school recognized by the Department of Education of Quebec. The certificate specifies the level and field of education.

For day-care workers, a community college diploma in day-care education technology is an asset.

6. SALARY

According to the 1986 census, the average salary of teachers working full time was $28,000, while two years after graduation, 1988 graduates earned and average salary of $20,960 for a full-time position.

SECONDARY-SCHOOL TEACHERS 2733

Examples: Substitute Secondary-School Teacher, Secondary-School Teacher

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
31,245	28,430	2,815	5,440	2,625

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,630	-	20	6,605	9,255

OTHER IMPORTANT REQUIREMENTS

Retirements should begin having a positive impact on the demand for teachers only at the end of the forecast period.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	46.7	48.7	Under 25 years	2.8	-	Full-time	98.9	96.5
Males	53.3	51.3	Over 54 years	6.3	-	Part-time	1.1	3.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (100)
- Elem. and Sec. Schools (100)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. The decrease in the school population due to Quebec's declining birth rate has caused schools to close down and reduced the number of teachers. In addition, available positions have been filled by teachers aged 30 and over instead of young graduates, owing mainly to relocation provisions for surplus teachers. In the long term, the aging of the teaching force should increase job opportunities for young graduates but retirements will begin to have a significant impact only after the year 2000, ie after the end of the forecast period.

Two major factors tend to boost the demand for secondary-school teachers. The first factor is demographic in nature. As a consequence of the period of increased births, enrolments should gradually increase at the secondary level in general. Enrolments at the vocational secondary level should increase as a result of the impact of new vocational training policies which makes completion of the vocational diploma more rigorous in terms of length of training.

4. LABOUR MARKET TRENDS (cont'd)

The teaching of English as a second language, French as a second Language, English language arts, mathematics, and sciences should provide good opportunities. Part-time and by-the-lesson teaching and occasional substitute teaching should make it easier for candidates to enter the school system.

The growth of French immersion programs outside Quebec will increase the demand for teachers trained in this field and should provide job opportunities throughout Canada.

5. EDUCATION AND SKILLS

A university degree in secondary-school education with specialization in the subject being taught or a university degree in a relevant field plus a one- or two-year course in education is required. A two-year probationary period is necessary to obtain a permanent teaching certificate. In vocational specialties, candidates can become qualified teachers either by obtaining a vocational teaching certificate after completing a community college diploma in the subject or by obtaining a trade certificate in the case of trades for which a provincially regulated apprenticeship program exists.

6. SALARY

According to the 1986 census, the average salary of secondary school teachers working full time was $32,790. According to the 1988 National Graduate Survey, graduates working full time as secondary-school teachers earned an average salary of $22,735.

ELEMENTARY AND SECONDARY SCHOOL TEACHING AND RELATED OCCUPATIONS, NOT ELSEWHERE CLASSIFIED

2739

Examples: Adult-Education Teacher, Secondary-School Teacher, Visiting Teacher, Tutor, Study Supervisor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6 415	7,955	1,540	2,045	3,585

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
430	-	-	5,530	5,960

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	66.4	70.0	Under 25 years	7.5	-	Full-time	-	81.6
Males	33.6	30.0	Over 54 years	6.8	-	Part-time	-	18.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (96)
- Elem. and Sec. School (96)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, with labour supply exceeding demand. As with elementary- and secondary-school teachers, enrolments will affect the employment prospects of this group of teachers. Openings in part-time and by-the-lesson jobs should provide opportunities for this occupational group.

5. EDUCATION AND SKILLS

A university degree in theology may be an asset for pastoral instruction. Candidates with no experience in this field may take a course in pastoral instruction at the Marie-Victorin CEGEP.

6. SALARY

According to the 1986 census, the average salary of teachers working full time was $26,560.

COMMUNITY COLLEGE AND VOCATIONAL SCHOOL TEACHERS 2791

Examples: Vocational Applied Arts Teacher, Welding Instructor, Business College Instructors, Typing Teacher, Commercial Art Teacher, Trade School Instructor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
12,525	14,395	1,870	2,265	4,135

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
590	-	-	1,345	1,935

OTHER IMPORTANT REQUIREMENTS

Part-time employment should increasingly be taken into consideration.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	38.5	41.0	Under 25 years	3.4	-	Full-time	96.9	94.4
Males	61.5	59.0	Over 54 years	5.0	-	Part-time	3.1	5.6

3. MAIN CHARACTERISTICS PROVIDING EMPLOYMENT (1986 %)

Education (95)
- Elem. and Sec. Schools (6)
- Vocational Centres (2)
- Post-secondary Institutions (80)
- Universities and Colleges (3)
- Education and Related Services, n.e.c. (4)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an average rate. During the 1970s, employment for CEGEP teachers recorded a very high growth rate. This growth reflected the increase in community college enrolments and the increase in the number of school establishments. The situation has stabilized in both cases and the growth rate will be rather moderate over the forecast period.

4. LABOUR MARKET TRENDS (cont'd)

The growing demand for continuing education, the increased number of paid holidays and the growing popularity of general interest courses among adults should maintain employment opportunities for these professionals. Moreover, the need for retraining and technical training resulting from the impact of technological changes is becoming increasingly urgent and should improve job prospects.

Part-time work should be taken into account since these teachers are hired either for several terms, on contract or for short periods of time. Many colleges offer a large selection of summer courses. Technological progress has had an impact on teaching methods thanks to the use of computers and, in technical classes, of specific equipment. Nonetheless, as in other teaching sectors, technological changes are not expected to affect the employment outlook.

5. EDUCATION AND SKILLS

To teach in a community college a university degree in the relevant subject and a teaching certificate are required. For technical and technological subjects, a community college diploma or university degree in the subject being taught plus three years' relevant experience is required.

6. SALARY

According to the 1986 census, the average salary of teachers working full time was $35,677 and that of teachers working part time was $20,609.

FINE ARTS TEACHERS, NOT ELSEWHERE CLASSIFIED 2792

Examples: Music Professor, Art Instructor, Drama Instructor, Dance Instructor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,735	4,240	505	1,430	1,935

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
445	0	0	835	1,280

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	68.3	71.6	Under 25 years	20.9	-	Full-time	78.7	71.3
Males	31.7	28.4	Over 54 years	12.4	-	Part-time	22.3	28.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Teaching (68)
- Elem. and Sec. Schools (21)
- Schools of Art and of the Performing Arts (33)
- Vocational Centres (1)
- Post-Secondary Education (Univ.) (3)
- Universities and Colleges (4)
- Education and Related Serv., n.e.c. (6)

Amusement and Recreation Serv. (15)
- Theatrical Services (4)
  - Other Services (11)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. These graduates face a difficult labour market owing to both the small number of positions which will become available and the placement of surplus teachers which is given priority by relocation provisions for these teachers. For teaching at the elementary and secondary school levels, art instructors are required to have general training for teaching both levels and in specialized teaching in two art specialties for teaching at the elementary level.

5. EDUCATION AND SKILLS

On-the-job training, a community college diploma or a university degree are recognized qualifications for drama instructors. In order to teach in a drama school, candidates must be graduates of a well-known theatre school, be recognized by their peers and be engaged in a professional career. A college diploma in dance and ballet or a university degree in dance is required to work as a dance instructor. To teach dance, candidates must have completed a minimum of 100 hours of classes.

6. SALARY

According to the 1986 census, the average salary of art instructors not elsewhere classified who were working full time was $27,860.

TEACHERS OF EXCEPTIONAL STUDENTS, NOT ELSEWHERE CLASSIFIED 2795

Examples: Teacher of Mentally Handicapped Persons, Teacher of the Blind, Teacher of Physically Handicapped Persons

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,600	11,205	1,605	2,235	3,840

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
915	-	2,650	20	3,885

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	63.8	67.8	Under 25 years	25.0	-	Full-time	91.8	85.8
Males	36.2	32.2	Over 54 years	3.1	-	Part-time	8.2	14.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Education (32)
- Elem. and Sec. Schools (32)

Health and Social Services (60)
- Hospitals (11)
- Other Health Care Inst. (48)
- Diagnostic and Therapeutic Serv. (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, with labour supply exceeding demand. Despite the expected decline in enrolments at the elementary level, the growing concern to correct learning problems is having a positive impact on the demand for teachers of the physically disabled. Because of relocation provisions for surplus teachers, the hiring of experienced teachers with a certain amount of training in remedial education makes the employment situation more difficult for new graduates in the field. Available openings are increasingly contract, supernumerary and part-time jobs. Society's growing acceptance of physically and mentally disabled persons may contribute to better employment prospects for these professionals. Bilingual candidates may find job opportunities outside Quebec.

5. EDUCATION AND SKILLS

A community college diploma in special education technology is required to work as a special education assistant. Employers prefer candidates who are 25 years of age and over. The completion of a practical training period helps candidates enter the labour market. Hospitals require a medical certificate. For teachers of hearing-disabled, seeing-disabled or mentally-disabled persons, a bachelor's degree in remedial education or psycho-education is recommended. This specialty is offered in the context of preschool, elementary and secondary school education programs at the university level. For teachers of mentally- and physically-disabled persons, a bachelor's degree in remedial education is necessary as well as a special teaching permit and/or certificate.

6. SALARY

According to the 1986 census, the average salary of teachers in this group was $25,753.

PHYSICIANS AND SURGEONS 3111

Examples: Cardiologist, Dermatologist, General Practitioner, Surgeon, Anesthesist, Pediatrician, Psychiatrist, Gynecologist, Radiologist, Geriatrist, Emergency Physician

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
14,135	15,890	1,755	4,620	6,375

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
105	-	-	2,180	2,285

OTHER IMPORTANT REQUIREMENTS

Forecasts indicate shortages of medical specialists.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.4	23.3	Under 25 years	4.6	-	Full-time	96.0	94.4
Males	81.6	76.7	Over 54 years	16.9	-	Part-time	4.0	5.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (96)
- Hospitals (39)
- Related Health Care Inst. (2)
- Physicians' Off. (53)
- Diagnostic and Therapeutic Care, n.e.c. (2)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Additional demand for doctors will come primarily from the requirement to fill job openings due to the attrition of labour, and employment growth will be rather slow. The population/physician ratio is not expected to change, but the demand for specific fields of practice may increase while others will decrease. There is a shortage of general practitioners. There is also an acute labour shortage in the areas of psychiatry, anesthesiology and general surgery; and there is a strong demand in nuclear medicine, obstetrics-gynecology, diagnostic radiology and urology. Since the growth of the elderly segment of the population has meant an increase in the number of patients suffering from cardiac problems, the demand for cardiology specialists should increase, all the more so since the supply of physicians in this specialty has not kept up with recent demand. The inadequate monetary compensation for specialties requiring more years of training, the increased risk of malpractice suits, the drop in the number of hours worked by doctors in general, and the "brain drain" of Quebec-trained physicians particularly toward the United States may bring about shortages of qualified medical personnel in certain fields.

4. LABOUR MARKET TRENDS (cont'd)

The aging of the population will affect the future demand for hospital care, which is already starting to make itself felt in some hospitals. Health care consumption as well as the length of time patients remain in hospital tends to increase with age. Moreover, improved life expectancy and the progress that has been made in the treatment of a number of illnesses is putting additional pressure on the demand for health care. The concern with maintaining health is growing. New types of treatment are beginning to emerge such as home care administered by health teams composed of doctors, nurses and family aides, which require an aptitude for team work on the part of doctors.

The field of health care is affected by technological innovations. The introduction of new technologies has had the greatest effect on radiodiagnosis, radiotherapy and nuclear medicine. Often, it is a computer incorporated into the machine itself that directs, controls and processes examination data. An understanding of the principles underlying and knowledge of the use of new devices is an asset for young physicians.

There is a demand for doctors in remote regions, especially for specialists such as surgeons.

5. EDUCATION AND SKILLS

A university degree in medicine and clinical training in a hospital are required. Membership in the Order of Physicians of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of physicians working full time was $55,311. According to the 1988 National Graduate Survey, respondents earned an average of $48,715 two years after graduation.

DENTISTS 3113

Examples: Dentist, Oral Surgeon, Orthodontist, Periodontist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,885	3,390	505	865	1,370

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
5	-	30	1,425	1,460

OTHER IMPORTANT REQUIREMENTS

The employment outlook for these specialists appears favourable.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	10.4	18.0	Under 25 years	4.3	-	Full-time	84.9	93.3
Males	89.6	82.0	Over 54 years	17.4	-	Part-time	*15.1	6.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Serv. (96)
- Hospitals (2)
- Dentists' Off. (91)
- Diagnostic and Therapeutic Serv., n.e.c. (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, and the labour supply should exceed the demand. A tightening of the labour market is anticipated in the major urban centres, while shortages may occur in outlying regions. Most dentists are self-employed. The drop in the rate of tooth decay is linked to a variety of factors, including greater public awareness of the importance of dental hygiene. The scope of dental services is widening all the time, and now encompasses root canal treatment and the fitting of crowns. Dental services are shifting away from treatment and toward preventive care. The monitoring of tooth development and cosmetic dentistry are increasingly becoming the preserve of dentists. The advent of easy-to-use biomaterial has greatly increased the demand for cosmetic dentistry. The employment outlook for orthodontists, periodontists and cosmetic dentistry specialists is bright. The increase in private dental insurance plans and the higher standard of living and education of the general population may improve opportunities for this group. Jobs are also opening up in dental research.

5. EDUCATION AND SKILLS

A university degree in dentistry is required. One or two years' additional training is necessary for specialization. Training for some specialties such as prosthodontics is not available in Quebec. Membership in the Order of Dentists of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of dentists working full time was $47,119.

VETERINARIANS 3115

Examples: Veterinarian

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
970	1,505	535	195	730

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
20	-	130	580	730

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	13.9	35.7	Under 25 years	7.6	-	Full-time	96.3	92.8
Males	86.1	64.3	Over 54 years	8.9	-	Part-time	3.7	7.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Agriculture (70)
- Agricultural Services (70)

Health and Social Serv. (11)
- Physicians' Off. (11)

Gov't Service (7)
- Other Federal Service (3)
- Provincial Service (4)

4. LABOUR MARKET TREND

Above-average employment growth is forecast and the labour market outlook is bright for veterinarians. Nonetheless, it is expected that a labour surplus in relation to the demand will spark keen competition for the available job openings. Veterinary medicine for small animals is expected to grow gradually. There are increasing numbers of companion pets and veterinary care is becoming more and more specialized (ophthalmology, radiology, orthopedics, cardiology, etc.). The grouping together of animal medicine practitioners, the management of clinics and the trend toward preventive medicine are changing veterinary medicine. Prevention is also gaining ground in industrial medicine (large animals). Ongoing training is an asset since new findings in veterinary medicine are growing rapidly and professional development is important. Jobs may open up in meat hygiene and the prevention of diseases that can be transmitted to humans.

5. EDUCATION AND SKILLS

A university degree in veterinary medicine is required. Membership in the Order of Veterinarians of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of veterinarians working full time was $30,521.

OSTEOPATHS AND CHIROPRACTORS 3117

Examples: Osteopath, Chiropractor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
690	860	170	185	355

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
5	-	-	-	5

OTHER IMPORTANT REQUIREMENTS

Chiropractic training is not available in Quebec.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	27.4	17.2	Under 25 years	71.6	-	Full-time	95.2	89.9
Males	72.6	82.8	Over 54 years	13.2	-	Part-time	4.8	10.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (98)
- Physicians' Off. (2)
- Off. of Para-medical Personnel (96)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. The labour market outlook is bright for this occupational group. The growing demand for alternative methods of medical treatment and the possibility of reimbursement of expenses linked to chiropractic care by insurance companies may stimulate the demand for chiropractors and osteopaths. Knowledge of new technologies such as ultra-sound, low-voltage simulators and diathermy is an asset. Almost all osteopaths and chiropractors work in a private practice. The growth of this occupational group tends to be restricted by the limited number of students that can be accommodated by the only chiropractic college in Canada and by the tendency of these professionals to complete their studies in the United States.

5. EDUCATION AND SKILLS

Students wishing to become chiropractors must complete a community college diploma in health sciences, one year of sciences at the university level and a four-year program in a chiropractic college. Though not available in Quebec, this program is offered in Ontario, at the Canadian Memorial Chiropractic College or in the United States. Students must undergo clinical training. Tuition fees are very high, even in Canada. Membership in the Order of Chiropractors of Quebec is mandatory. For osteopaths, a university degree in health sciences is a prerequisite to a five-year training in a college for osteopaths. A thesis on a clinical subject must also be presented to an international board.

6. SALARY

According to the 1986 census, the average salary of osteopaths and chiropractors working full time was $29,076.

HEALTH DIAGNOSING AND TREATING OCCUPATIONS, NOT ELSEWHERE CLASSIFIED

3119

Examples : Psychotherapist (all industries), Naturopath, Podiatrist, Naturopathic Physician, Acupuncturist, Kinesiologist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,955	2,415	460	600	1,060

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
25	-	200	-	225

OTHER IMPORTANT REQUIREMENTS

The public's demand for alternative methods of medical treatment is increasing.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	58.4	57.5	Under 25 years	17.3	-	Full-time	85.9	77.6
Males	41.6	42.5	Over 54 years	8.6	-	Part-time	14.1	22.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (90)
- Hospitals (42)
- Related Health Care Inst. (4)
- Physicians' Off. (8)
- Off. of Para-medical Personnel (Practitioners) (33)
- Diagnostic and Therapeutic Serv., n.e.c. (3)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, with labour supply falling short of demand. In 1985 there were, depending on the definitions used, from 150 to 300 acupuncturists and 300 naturopathic physicians working full time in Quebec. The growing demand for alternative methods of medical treatment may brighten the employment outlook for these occupations. Some alternative methods of health care are making inroads into hospitals and community health establishments, and may create job opportunities for this occupational group.

HEALTH DIAGNOSING AND TREATMENT OCCUPATIONS, NOT ELSEWHERE CLASSIFIED

3119

5. EDUCATION AND SKILLS

The qualifications required for these occupations vary with the specialty. Students wishing to become acupuncturists should have a community college diploma in acupuncture. Those who wish to practise as podiatrists must complete a community health diploma in health sciences and a three- or four-year course of study in podiatry. No podiatry training program is available in Canada, but some colleges in the United States offer a program. Membership in the Order of Podiatrists of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of members of this occupational group who were working full time was $23,426.

NURSES, NURSES REGISTERED, NURSES GRADUATE AND NURSES-IN-TRAINING 3131

Examples: Graduate Nurse, Nurse Consultant, School Health Nurse, Psychiatric Nurse, Nursing Research Specialist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
59,635	82,035	22,400	17,550	39,950

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,680	100	9,640	4,380	15,800

OTHER IMPORTANT REQUIREMENTS

The demand for nurses is constant.

2. MAIN CHARACTERISTICS

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	91.2	92.2	Under 25 years	20.3	-	Full-time	70.9	61.8
Males	8.8	7.8	Over 54 years	4.8	-	Part-time	29.1	38.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (95)
- Hospitals (80)
- Other Health Care Institutions (11)
- Physicians' Offices (1)
- Diagnostic and Therapeutic Serv., n.e.c. (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. The demand for nurses is growing. Forecasts point to a relative scarcity of nurses on the job market. The aging population and increased life expectancy may lead to increased demand for nurses in the areas of geriatrics, long-term care and chronic care. The current trend towards providing services outside acute-care hospitals (clinics, rehabilitation and chronic-care centres, senior citizens homes) is likely to create some job opportunities.

4. LABOUR MARKET TRENDS (cont'd)

The trend towards keeping elderly persons at home increases the demand for nurses capable of providing medical support in the home. In addition to the aging population as a factor in the demand for nursing care, the tendency of hospitals to hire nurses at the expense of nursing assistants and the expanding role of nurses in the area of community health could increase the demand even more. Computerization of patients' files, while reducing the amount of work involved in maintaining and evaluating patients' files, could slow down the demand for nurses. Nonetheless, the requirement for specialized nurses should remain strong. In a number of hospitals, shortages now exist in intensive care, cardiology, geriatrics, psychiatry and emergency care. These professionals are constantly in demand in institutions located in remote areas.

5. EDUCATION AND SKILLS

To enter into these occupations, students must complete a community college diploma or a university degree in nursing and pass the exams set by the Order of Nurses of Quebec. New graduates must be prepared to do shift work (day, evening or night shift any day of the week, including statutory holidays and during the summer months). Most jobs are temporary or casual. Most nurses must work for a number of years on a part-time basis, for up to five years, before obtaining a full-time position. Bilingualism is an asset, opening up job opportunities in French-speaking areas of Canada. There are also opportunities outside Canada, notably in the United States.

6. SALARY

According to the 1986 census, the average salary of nurses working full time was $29,387. According to the 1988 National Graduate Survey, the average salary of nurses who were working full time two years after completing their studies was $22,010 if they were university graduates and $21,828 if they were college graduates.

REGISTERED NURSING ASSISTANTS 3134

Examples: Graduate Nursing Assistant, Registered Nursing Assistant, Midwife

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
14,235	15,870	1,635	3,650	5,195

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	GRADUATES 1989-2000 COMMUNITY COLLEGE	GRADUATES 1989-2000 UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,120	3,790	730	-	5, 640

OTHER IMPORTANT REQUIREMENTS

The proportion of assistant nurses is decreasing in the organization of nursing care.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	88.0	90.2	Under 25 years	24.0	-	Full-time	67.9	58.6
Males	12.0	9.8	Over 54 years	3.9	-	Part-time	32.1	41.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (95)
- Hospitals (75)
- Other Health Care Institutions (20)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. The employment outlook for these occupations is not bright, despite the presence of positive factors. The growing concern for physical and mental health and the increased demand for quality services on a more personal level could boost the requirement for the services of nursing assistants. Facilities providing less intensive care such as convalescent homes, day-care centres, chronic-care and rehabilitation centres, diagnostic and therapeutic centres, and the increase in home-care programs could create some job opportunities. However, important factors will limit employment growth. Some hospitals are employing increasingly fewer assistant nurses, preferring instead to hire registered nurses. The slight differences in salaries and the increased complexity of the technologies used prompt hospitals to recruit nurses instead of assistant nurses. The proportion of assistant nurses is decreasing and their role appears to be less integrated into the overall organization of nursing care. Full-time jobs are becoming scarcer.

5. EDUCATION AND SKILLS

Completion of the secondary long vocational course in practical nursing and on-the-job training in a hospital are required. Membership in the Professional Corporation of Nursing Assistants of Quebec is mandatory. Many of the jobs in this field are temporary, part-time or casual and may involve shift work (day, evening or night). Geographic mobility is an asset.

6. SALARY

According to the 1986 census, the average salary of nursing assistants working full time was $23,962.

AUDIO AND SPEECH THERAPISTS (INCLUDES PHYSIOTHERAPISTS AND OCCUPATIONAL THERAPISTS)

3136, 3137, 3138

Examples: Audio Therapist, Speech Therapist, Physiotherapist, Recreational Therapist, Occupational Therapist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,700	7,685	1,985	1,745	3,730

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
175	-	600	3,425	4,200

OTHER IMPORTANT REQUIREMENTS

The demand will be positive but the competition brisk.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	80.6	Under 25 years	-	-	Full-time	-	79.3
Males	-	19.4	Over 54 years	-	-	Part-time	-	20.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (91)
- Hospitals (57)
- Other Health Care Institutions (13)
- Physicians' Offices (2)
- Offices of Paramedical Personnel (Practitioners) (15)

Education (6)
- Elementary and Secondary Schools (6)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, with labour supply exceeding demand. The aging population, the search for a better quality of life, the greater autonomy of disabled persons and efforts to further their social integration are increasing job prospects for these professionals. The employment outlook is bright for physiotherapists. Given the aging population, the demand for chronic and geriatric care should increase. A gradual increase in the number of chronic patients is expected, which will largely exceed the number of places available in hospitals providing acute and short-term care. The home-care and out-patient clinic system will expand, creating additional demand for physiotherapists in community health. New areas of activity are open to these professionals. For example, physiotherapists are increasingly in demand in schools, industry and sports. Rehabilitation technicians may compete with physiotherapists for certain jobs. In addition to the treatment aspect itself, the role of physiotherapists is expanding to include duties related to prevention, consultation

4. LABOUR MARKET TRENDS (cont'd)

and screening. There is a shortage of physiotherapists almost everywhere in Quebec, particularly in remote regions. Part-time jobs are frequent, especially in the area of home and private care. The trend towards private physiotherapy clinics should continue over the next few years and give rise to new job opportunities.

The establishment of an increasingly closer link between learning problems in childhood and communication disorders should spur the requirement for prevention, evaluation and re-education in the area of learning disorders and stimulate the demand for speech therapists. Geriatrics opens new prospects for specialists in this field as well as for audio therapists. The prevention of hearing and speech problems among elderly persons will become increasingly necessary in the community milieu. New therapeutic approaches are being developed, ie from an approach that treats a group of people with the same type of disorder towards one in which the patient is treated globally by a multidisciplinary team that includes various health workers. Private practice should become more widespread to reflect the growth in the demand for quick and personalized services. The growing trend towards home care, which compensates for the shortage of hospital services, should provide new labour market opportunities for these professionals. The appearance of sophisticated devices, particularly in audiology, has made diagnosis easier for these specialists. In the area of speech therapy as well, computer technology has improved the diagnostic procedure. In addition, the computer is increasingly being used as a tool in re-education. Knowledge of these computerized tools is an asset for speech therapists. These professionals are in increasing demand, especially outside the major urban centres.

New approaches in health care which increasingly feature rehabilitation as a form of care that can replace hospital care, together with greater public awareness of disabled persons could boost the demand for occupational therapists. The role of these therapists is changing. Besides preserving the capacities of the individual who displays a deficit, their tasks are shifting towards preserving the capacities of the healthy individual. Preventive and educational aspects are assuming a more dominant role and could give rise to additional job openings in schools, day-care centres, industry, community service centres and private practice.

5. EDUCATION AND SKILLS

Physiotherapists require a university degree in physiotherapy and occupational therapists, a bachelor's degree in occupational therapy. Audio and speech therapists require a master's degree in speech therapy or audio therapy.

6. SALARY

According to the 1986 census, the average salary of audio therapists working full time was $33,633, of physiotherapists, $31,889 and of occupational therapists, $29,952.

PHARMACISTS 3151

Examples: Pharmaceutical Chemist, Hospital Pharmacist, Industrial Pharmacist, Pharmacist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,220	4,965	750	1,210	1,960

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
65	-	-	1,170	1,235

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	38.8	48.6	Under 25 years	8.7	-	Full-time	91.0	86.2
Males	61.2	51.4	Over 54 years	12.1	-	Part-time	9.0	13.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (73)
- Drug Stores (73)

Health and Social Services (24)
- Hospitals (23)
- Related Health Care Inst. (1)

4. LABOUR MARKET TRENDS

Above-average employment growth is expected. Nearly 2,000 jobs may open up in this occupational group from now until the year 2000, one-third of which will be created by the increased demand for pharmacists' services and the rest through attrition of employees in existing jobs.

In Quebec, only pharmacists may own drug stores. The number of drug stores in urban centres has reached the saturation point, thus restricting employment growth in this area. Independent pharmacists are losing increasingly more ground to large chains and the work of pharmacists is changing. Pharmacists' tasks are shifting away from the products themselves toward greater contact with patients and the clinical aspects of drug use. The growth of the elderly segment of the population means that pharmacists will be dealing with increasingly greater numbers of chronic patients who are significant consumers of medication and health care. This situation, which is linked to the growth of drug therapy, self-medication, home care and preventive and promotional approaches, increases the trend toward clinical work for pharmacists.

4. LABOUR MARKET TRENDS (cont'd)

New technologies such as the computerization of patients' files favour the pharmacist's role as consultant. Computerized files help the pharmacist to quickly identify contraindications and how drugs interact with each other in order to inform patients and provide them with instructions for the use of medication and its side effects. Greater emphasis may therefore be placed on pharmaceutical services as opposed to the product. Knowledge of the computer systems used in the field is an asset for pharmacists.

In hospitals, the demand for clinical departments and the development of pharmaceutical services spur employment opportunities for pharmacists. The requirement for pharmaceutical expertise in hospitals is increasing because of the growing complexity of medical treatments and the proliferation of multidiagnostic and treatment schedules which create a need for close monitoring by pharmacists. Experience, specialization and higher education are often required of pharmacists wishing to work in hospitals. Moreover, the ability to communicate and to work in a group are sought after since pharmacists must work within multidisciplinary teams.

5. EDUCATION AND SKILLS

Graduation from a four-year university course in pharmacy and a postgraduate practical training period are required for membership in the Order of Pharmacists of Quebec. For full-time employment in a health institution, a graduate degree in hospital pharmacy is increasingly required.

6. SALARY

According to the 1986 census data, the average annual salary of pharmacists working full time was $31,910.

DIETITIANS AND NUTRITIONISTS 3152

Examples: Therapeutic Dietitian, Dietitian, Nutritionist, Diet Therapist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,445	1,715	270	430	700

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
150	-	560	820	1,530

OTHER IMPORTANT REQUIREMENTS

New markets may open up.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	91.5	95.7	Under 25 years	15.1	-	Full-time	89.0	68.6
Males	8.5	4.3	Over 54 years	1.5	-	Part-time	11.0	31.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (85)
- Hospitals (68)
- Related Health Care Institutions (7)
- Off. of Para-medical Personnel (Practitioners) (6)
- Diagnostic and Therapeutic Care (4)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average, but labour supply should surpass demand. Greater public awareness of the importance of a healthy diet suggests that dietitians will be required in a broader range of fields, reaching beyond therapeutic dietetics to prevention and nutritional education. While most dietitians and nutritionists now work in health care institutions or the food processing industry, they will increasingly be in demand to work as consultants and educators in schools, day-care centres, outdoor recreation centres and community health establishments. New opportunities are also opening up in the area of consumer awareness, with information campaigns designed to promote healthful eating habits. Other employment opportunities may also open up in supermarkets and food cooperatives. However, the labour market outlook appears to be brighter for dietitians than dietary technicians.

4. LABOUR MARKET TRENDS (cont'd)

Technological changes in the dietary sector have not been fully implemented yet. Nonetheless, the gradual computerization of various aspects of hospital activity will have an impact on the tasks of dietary technicians. With the implementation of a single patient file, the link between services and the processing of files will change. This link will allow greater control of the many medical interventions, including those of dietary services, and will reinforce professional relationships with other health care workers. Knowledge of computer systems in the field and their use is an asset for this occupational group. Good communications and teamwork skills are an asset.

Part-time work is fairly common; in 1986, 31% of dietitians and nutritionists were working on a part-time basis.

5. EDUCATION AND SKILLS

A university degree in dietetics and nutrition as well as a training period in a hospital or in community health are required. Membership in the Professional Corporation of Dietitians of Quebec is mandatory for those who wish to use the title of dietitian.

6. SALARY

According to the 1986 census, the average salary of dietitians and nutritionists working full time was $30,925.

OPTOMETRISTS 3153

Examples: Optometrist

1. LABOUR MARKET TREND FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,095	1,300	205	305	510

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
5	-	-	300	305

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	24.3	39.2	Under 25 years	9.5	-	Full-time	100.0	92.2
Males	75.7	60.8	Over 54 years	12.8	-	Part-time	0.0	7.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (96)
- Off. of Para-medical Personnel (Practitioners) (96)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at a rate slightly above the average, and the overall prospects for this occupational group are good. Even though the labour supply has increased, it is expected to fall short of demand. The aging of the population, leading to the increased need for eye care, screening examinations for eye problems and the greater importance given to good vision are factors that should benefit optometrists.

In the short term, technological changes should not modify either the demand for this occupational group or the skills required to practise optometry.

Most optometrists are self-employed. However, there is a trend toward several optometrists grouping together to provide services with more flexible hours. Cooperation with other eye health workers such as government consultants and community health establishments is becoming increasingly frequent.

5. EDUCATION AND SKILLS

A university degree in optometry is required. Membership in the Quebec Association of Optometrists is mandatory.

6. SALARY

According to the 1986 census, the average salary of optometrists working full time was $30,954.

DISPENSING OPTICIANS 3154

Example: Optician

1. LABOUR MARKET TRENDS FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
815	1,080	265	210	475

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
10	-	430	-	440

OTHER IMPORTANT REQUIREMENTS

There is an overall balance between supply and demand, and the employment outlook is bright in outlying regions.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	28.7	38.7	Under 25 years	23.8	-	Full-time	93.5	91.1
Males	71.3	61.3	Over 54 years	5.9	-	Part-time	6.5	8.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Misc. Manufacturing Ind. (13)
- Scientific and Prof. Equip. Ind. (13)

Retail Trade (46)
- Retailers, n.e.c. (46)

Health and Social Services (38)
- Physicians' Off. (2)
- Off. of Para-medical Personnel (Practitioners) (36)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at a rate well above the average. The labour supply that is currently ready to enter the labour market should meet the expected demand. The requirement for seeing orthoses has risen dramatically over the last decade. The growing segment of the population has brought about an increased need for eye care and is thus having a positive effect on the demand for the services of dispensing opticians. The requirement for dispensing opticians should be boosted by more frequent screening tests for children and the increasing number of people likely to own more than one pair of corrective lenses.

Certain factors may, however, influence the increase in the demand, such as private insurance plans and the number of optometrists and ophthalmologists who provide eye glasses and contact lenses. Nonetheless, employment opportunities for specialist opticians have risen due to the growing requirement of consumers for quality services to replace untrained assistants who often workin the sale of eye glasses and contact lenses.

4. LABOUR MARKET TRENDS (cont'd)

Knowledge of management and communications in the retail trade, such as financial management, marketing and advertising, in addition to technologies specific to the field makes it easier for dispensing opticians to enter the labour market.

The current trend suggests that in the immediate future technological progress will have no significant impact either on the skills or the tools needed to practise the occupation.

Opticians are constantly in demand in the outlying regions of large urban centres. Geographic mobility is an asset.

5. EDUCATION AND SKILLS

A community college diploma in seeing orthoses technologies is required. Membership in the Order of Dispensing Opticians is mandatory for those who wish to practise as and use the title of dispensing optician.

6. SALARY

According to the 1986 census, the average salary of dispensing opticians working full time was $21,476.

RADIOLOGICAL TECHNOLOGISTS AND TECHNICIANS 3155

Examples: X-ray Technician, Nuclear Medicine Technologist, Diagnostic Radiological Technician, Radiotherapy Technician, Diagnostic Medical Sonographer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,695	3,030	335	675	1,010

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
165	-	845	-	1,010

OTHER IMPORTANT REQUIREMENTS

New technologies affect the tasks of radiological technicians.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	78.5	80.8	Under 25 years	21.3	-	Full-time	82.9	77.8
Males	21.5	19.2	Over 54 years	3.3	-	Part-time	17.1	22.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (97)
- Hospitals (86)
- Physicians' Off. (8)
- Diagnostic and Therapeutic Care, n.e.c. (3)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. The demand for this occupational group is partially linked to technological changes. The effect of these changes on the tasks of these professionals appears to be ambiguous. For instance, the tendency of hospitals to share costly services and to use equipment and personnel that are mobile, could limit the growth of the labour demand. However, new technologies may have a positive effect on this demand by requiring greater specialization. Often, new equipment is added to the existing equipment without replacing it, thus allowing a greater variety of tests and maintaining the level of employment for these technicians.

Radiology comprises three technological fields, i.e. general or diagnostic radiology (X-rays, ultrasound), nuclear medicine and radiotherapy (oncology) and specialized radiology (echography, electroencephalography). The impact of the new technologies varies from field to field. In general radiology, the appearance of automated developing equipment for plates has made the tasks of these technicians easier. The rate of plate-making has increased and has had the effect of concentrating the technician's tasks to preparing the machine and positioning the patient. The appearance of the scanner in specialized radiography and of computer gamma-emission transaxial tomography in

4. LABOUR MARKET TRENDS (cont'd)

the field of nuclear medicine, have given rise to new methods of organ analysis and make it possible to simultaneously view an image of the organ and conduct a sectional exploration of it. In specialized radiology, the traditional plate has been replaced by computerized digital imaging. This trend should continue to grow and, in the more or less long term, the computer could surpass conventional radiology. Radiology technicians will tend to become increasingly specialized in medical imaging techniques.

New technologies are often linked to computers. A knowledge of computers and processing of computer data is an asset for this occupational group.

Radiology technicians come into direct contact with patients. New technologies are changing the task division, i.e. the diagnostic aspect is becoming less predominant in the tasks of the radiology technician since they have been taken over by medical personnel. This has given rise to a strengthening of the radiology technician/patient relationship. The diversification and increase in the number of professional duties of radiology technicians are responsible for means that their role is shifting more and more toward informing patients about the techniques being used.

The demand for specialized radiology technicians should remain steady, while that for general radiology technicians could decline. The latter could undergo retraining in a specialty, thus filling some of the available specialty jobs and increasing the competition for graduates in this field. A large portion of the full-time radiology jobs in hospitals have become part-time. Nearly one-quarter of technicians are employed on a part-time basis.

5. EDUCATION AND SKILLS

A community college diploma in nuclear medicine technology, in radiodiagnosis or radiotherapy technology is required, depending on the specialty. Membership in the Order of Radiology Technicians of Quebec is mandatory.

6. SALARY

According to the 1986 census, the average salary of these professionals was $25,395. In 1988, those working full time in this occupational group earned an average of $12.25 an hour, two years after obtaining their diploma.

MEDICAL LABORATORY TECHNOLOGISTS AND TECHNICIANS 3156

Examples: Biochemistry Technologist, Microbiology Technologist, Electron Microscopy Technologist, Medical Laboratory Technician, Veterinary Laboratory Technician, Laboratory Assistant, Animal Health Technician

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,810	11,930	2,120	2,535	4,655

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
395	70	1,950	365	2,780

OTHER IMPORTANT REQUIREMENTS

New technologies are changing the tasks of laboratory technicians.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	75.1	76.2	Under 25 years	21.6	-	Full-time	89.6	83.3
Males	24.3	23.8	Over 54 years	3.3	-	Part-time	10.4	16.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Serv. (76)
- Hospitals (68)
- Physicians' Off. (1)
- Diagnostic and Therapeutic Services, n.e.c. (7)

Chemical and Chemical Prod. Ind. (4)
- Man. of Pharmaceuticals and Medicines (4)

Education (6)
- Universities and Colleges (6)

Retail Trade (5)
- Drug Stores (5)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. These occupations remain sensitive to government spending policies in the area of health. Increased requirements will depend to a large extent on government policy and the financial resources available to the medical and hospital system. Technological advancement has had an important impact on these occupations, particularly in the field of biochemistry. New technologies are increasing requirements for analyses and changing the role of medical laboratory technicians. With automated or semi-automated multi-parameter devices that can conduct a series of different routine analyses for one or more patients for the same test, analysis tasks are completely taken over by the machine. Consequently, the tasks of preparing test tubes and reagents, setting up and monitoring machines are tending to increase for lab technicians, while diagnostic tasks are decreasing. Moreover, the printing of report results by a printer attached to the machine requires no assistance, thus reducing the time spent on the writing and administration of analyses.

4. LABOUR MARKET TRENDS (cont'd)

The time freed up by electronic analysis equipment is used for more advanced analysis work. The rapid development of new technologies has stimulated the growth of specialized work requiring a considerable diagnostic capacity. The work of specialists (biochemists, technologists) is becoming increasingly concentrated in laboratories. The trend toward employing those with a university education in the field may grow, thereby causing the number of job prospects for laboratory technicians to decline. The use of new machines means that candidates with training in electronics and a familiarity with computers and equipment maintenance have an advantage.

The growing trend toward home care and the development of instruments that make it possible to conduct simple tests in the physician's office or even in the patient's home (e.g. diabetic units) may change the nature of technicians' work. Their expertise in calibration, quality control, and in providing technical consulting services to users will be increasingly sought after. Technicians' routine tasks may be enriched by consulting tasks.

5. EDUCATION AND SKILLS

A community college diploma in medical laboratory technology is required or, depending on the specialty, in chemical and biological technology or in cytology. For animal health or veterinary laboratory technicians a community college diploma in animal health or in natural environment technologies is required.

6. SALARY

According to the 1986 census, the average salary of laboratory technicians working full time was $24,847. In 1988, two years after completing their Diploma of Collegial Studies, the average salary of those working full time in this occupation was $20,584.

DENTUROLOGISTS (DENTAL HYGIENISTS/ASSISTANTS, DENTAL LABORATORY TECHNICIANS)

3157-3158-3161

Examples: Oral Hygienist, Orthodontic Technician, Dental Ceramist, Dental Assistant, Dental Hygienist, Dental Laboratory Technician

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,615	9,525	2,910	2,320	5,230

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
590	605	3,650	295	5,140

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	75.8	75.9	Under 25 years	41.3	-	Full-time	90.7	85.2
Males	24.2	24.1	Over 54 years	4.9	-	Part-time	9.3	14.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Misc. Manufacturing Industries (86)
- Scientific and Professional Equipment (86)

Health and Social Services (13)
- Dentists' Off. (13)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast for this occupational group. The labour market outlook for dental laboratory technicians and denturologists is bright. Changing social values are causing people to take increasingly better care of their teeth. Dentists will see their work shift away from tooth extractions toward dental repair and maintenance. Requirements for bridges, crowns and fixed or moveable orthodontic prostheses should increase and thereby spur the demand for dental lab technicians. The growing trend toward providing personalized services in this field makes communication skills an asset for these professionals. Factors such as the aging population, changes in dental diseases and the reduced incidence of tooth decay resulting in better dental maintenance, together with growing public concern about oral health, should boost demand for the services of dental hygienists. Since the need for preventive dental medicine is likely to grow under the impact of a higher quality of life and education, so too will the demand for dentists. Employment opportunities for dental assistants should reflect the increase in the number of dentists.

5. EDUCATION AND SKILLS

A community college diploma in denturology, dental hygiene or dental technology is required. Membership in the Order of Denturologists, the Order of Dental Hygienists or the Order of Dental Technicians is required, depending on the occupation. Students who are able to gain some experience, even part-time, during the third year of their studies have an advantage. For dental assistants, a minimum of eleven years of schooling together with typing and bookkeeping skills are required. For technicians specializing in orthodontics and prosthodontics, two career paths are available: a community college diploma in manufacturing technology, plus a two- or three-year program in prostho-orthodontics, or a five-year apprenticeship or on-the-job training program.

6. SALARY

According to the 1986 census, the average salary of denturologists was $25,715, of dental hygienists and dental assistants, $16,024 and of dental laboratory technicians, $19,610. In 1988, the average salary of denturologists working full time was $18,443 two years after completing their studies, and dental hygienists and dental assistants earned $19,416.

OTHER MEDICAL PERSONNEL 3169

Examples: Dietary Technician, Ocularist, Respiratory Technician, Prosthetist-Orthotist, Electroencephalographic Technician, Electrocardiographic Technician, Dietary Assistant, Emergency-entry Attendant

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,230	8,925	2,695	2,060	4,755

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
440	880	1,290	320	2,950

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%) :

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	50.5	Under 25 years	-	-	Full-time	-	71.3
Males	-	41.5	Over 54 years	-	-	Part-time	-	20.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Census data are not available for these occupations; however, it is reasonable to believe that these occupations are concentrated in the health and social services sectors.

4. LABOUR MARKET TRENDS

Employment for this occupational group is expected to grow at an above-average rate. More than half of these technicians will enter newly created jobs, while the others will replace people leaving jobs that have existed for some time. Growing public awareness of the importance of a healthy diet should spur the requirement for dietary technicians, but the labour supply is expected to exceed demand. Dietary technicians may be required to work in a broader range of fields since they will be increasingly in demand to work as consultants and educators in schools, day-care centres, outdoor recreation centres and community health establishments. The technological changes being introduced in hospitals could reduce the requirement for these technicians as well as have an impact on their tasks. The computerization of menus making it possible to produce daily statistics on the number of menus and meals will increasingly allow dietary technicians to work directly with patients. Knowledge of computer systems and their use is an asset. Good communication and group work skills are sough after. The employment outlook is expected to be bright for respiratory and anesthetic technicians. Respiratory services are very diversified. Demand in health institutions, particularly those situated in outlying areas, and the increase in home-care services should spur the requirement for these technicians.

5. EDUCATION AND SKILLS

A community college diploma in dietetic technology is required to practise as a dietary technician. A health certificate is required for hearing-aid technicians. A Diploma of Collegial Studies in hearing-aid technology is mandatory. Membership in the Order of Hearing Aid Acousticians of Quebec is required. Prosthetist-orthotists need a Diploma of Collegial Studies in order to practise. For respiratory technicians, a Diploma of Collegial Studies in respiratory and anesthetic technologies is required, and membership in the Corporation of Respiratory Therapists is mandatory. A Diploma of Collegial Studies in medical electrophysiology leads to the occupations of electroencephalographic technician and electrocardiographic technician.

6. SALARY

According to the 1986 census, the average salary of other medical personnel working full time was $19,502. According to the National Graduate Survey, the average salary of those working full time in the occupational group of "other medical personnel" was $19,416, two years after obtaining a Diploma of Collegial Studies.

PRODUCT AND INTERIOR DESIGNERS 3313

Examples: Exhibition and Display Designer, Fashion Designer, Stained-Glass Artist, Securities Designer, Fabric Designer, Furniture Designer, Office Space Planner, Fashion Designer - Clothing Industry, Industrial Designer, Interior Decorator, Floral Arranger, Florist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8,075	9,175	1,100	2,140	3,240

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
475	230	730	0	1,435

OTHER IMPORTANT REQUIREMENTS

Knowledge of computer-assisted design is an asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	46.3	49.3	Under 25 years	22.7	-	Full-time	89.7	88.5
Males	53.7	50.7	Over 54 years	11.2	-	Part-time	10.3	11.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (26)
- Food Stores (3)
- General Merchandise Stores (4)
- Women's Clothing Stores (2)
- Clothing and Dry Goods Stores, n.e.c. (1)
- Hardware Stores (1)
- Furniture Stores (5)
- Drug Stores (1)
- Florists' Shops (9)

Wholesale Trade (2)
- Apparel Wholesalers (2)

Clothing Industries (12)
- Men's Clothing Ind. (2)
- Women's Clothing Ind. (7)
- Children's Clothing Ind. (1)
- Misc. Clothing Ind. (2)

Construction (3)
- Specialized Contractors (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate, given the outlook for the clothing, furniture and shoe sectors. Nonetheless, the public's growing emphasis on product quality and manufacturers' desire to bring production more in line with demand should spur the requirement for specific products and boost employment opportunities for product designers. For interior decorators/designers and furniture designers, the shifting of

4. LABOUR MARKET TRENDS (cont'd)

consumer taste towards top-of-the-line and original products may towards international markets, the concern for marketing original products and the development of specialized niches may boost the requirement for fashion, shoe and fur designers.

New technologies are having an impact on the duties of industrial product designers and sooner or later all sectors of the manufacturing industry will be affected by computer-assisted design (CAD) and computer-assisted drafting (CAD). These computer technologies tend to reduce repetitive and routine tasks, leaving more time for analysis and concept work. Computer-assisted design and drafting makes the work of product designers easier by accelerating the execution, correction and production of new versions of an original plan. Knowledge of existing software in their field and the ability to use this software are assets for young designers. Candidates who combine a knowledge of computing with drafting ability are sought after.

5. EDUCATION AND SKILLS

To enter into these occupations candidates must complete a community college diploma in the chosen discipline. For interior decorators/designers, a community college diploma in interior design or a bachelor's degree in design is required. Membership in the Société des décorateurs-ensembliers du Québec is mandatory in order to use the title. A bachelor's degree in industrial design is an asset for industrial designers. A portfolio and knowledge of innovations in the field are also important elements.

6. SALARY

According to the 1986 census, the average salary of product designers and interior decorators was $22,412. The results of the 1988 National Graduate Survey showed that the average annual salary of community college graduates who were working full time two years after graduation was $14,795.

ADVERTISING AND ILLUSTRATING ARTISTS 3314

Examples: Commercial Artist, Advertising Layout Person, Lettering Artist, Videotex Page Designer, Graphic Artist

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,670	9,055	2,385	1,250	3,635

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
690	-	100	1,055	1,845

OTHER IMPORTANT REQUIREMENTS

Knowledge of computer-assisted design is an asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	30.8	38.2	Under 25 years	24.6	-	Full-time	-	92.2
Males	69.2	61.8	Over 54 years	4.6	-	Part-time	-	7.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (86 %)

Business Services (36)
- Advertising Services (30)
- Scient. Studies and Serv. (2)
- Management Consulting Services (1)
- Misc. Services (3)

Gov't Service (6)
- Other Federal Services (1)
- Gov't Service (4)
- Local Gov't Service (1)

Printing and Publishing (20)
- Commercial Printing (9)
- Platemaking, Typesetting and Trade Bindery Ind. (3)
- Publishing Only (4)
- Publishing and Printing (4)

Misc. Manufacturing Ind. (7)
- Signs and Displays Industry (7)

4. LABOUR MARKET TRENDS

Forecasts indicate an above-average employment growth rate. It is expected that the upward trend noted over the past few years in the number of magazines will continue, particularly in the case of specialized magazines and business publications, which should reach the anglophone market. A dynamic publishing sector should spur job prospects for advertising and illustrating artists. The advent of desktop publishing in the publishing market makes it possible to produce periodicals, bulletins and posters at home by combining text and graphics on the same screen with layout capability. The spread of this new technology could encourage the establishment of independent graphics companies, particularly in the area of internal corporate publications.

4. LABOUR MARKET TRENDS (cont'd)

The introduction of computer-assisted design and drafting technology has made the task of advertising and illustrating artists easier. Using a basic design, corrections and revisions of designs can be made with increasing speed. The designer can make corrections in the presence of a client and provide the client with new versions of the original design. Knowledge of computerized systems is an asset for these specialists. For illustrating and graphic artists, computers are useful for preparing sketches, creating graphics and animating images. Good design and drawing skills are a definite asset. Artists with exceptional talents and skills are most likely to be employed. Portfolios are very important.

5. EDUCATION AND SKILLS

Training can be acquired in a number of ways: a community college diploma, either in graphic arts or commercial design; a bachelor's degree in graphic design; or a university degree in art, with emphasis on its applications to specific fields such as medicine or electronics. Portfolios are important.

6. SALARY

According to the 1986 census, the average salary of advertising and illustrating artists working full time was $25,890.

PHOTOGRAPHERS AND CAMERA OPERATORS 3315

Examples: Photographer, Scientific Photographer, Commercial Photographer, Aerial Photographer, Television Camera Operator, Reporter/Photographer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,120	3,715	595	505	1,100

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
405	190	15	355	965

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	12.2	16.6	Under 25 years	17.1	-	Full-time	-	91.6
Males	87.8	83.4	Over 54 years	7.1	-	Part-time	-	8.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Other Services (54)
- Photographic Serv., n.e.c. (54)

Communication (13)
- Radio and Television Broadcasting (13)

Amusement and Recreation Serv. (5)
- Motion Picture Prod. and Distr. (5)

Printing and Publishing (3)
- Publishing and Printing (3)

Education (3)
- Universities and Colleges (3)

Business Services (1)
- Advertising Services (1)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. In our view, the projected labour supply from the regular education system underestimates real supply, which should be more substantial. Generally speaking, the market outlook for this occupational group is rather dim, despite a few bright spots. The increasing use of visual aids in business to promote products and of photographs in medical research will provide some employment opportunities for photographers. However, the fall in prices for quality cameras may translate into a decline in demand for the professional photographer. The widening use of video cameras at social functions such as weddings and group gatherings is opening up a market for camera operators.

4. LABOUR MARKET TRENDS (cont'd)

For television camera operators, the use of video cameras which capture image and sound simultaneously could serve to reduce the labour force as shooting crews that use this new equipment tend to cut back on their employees. In television studios, the use of both electronic cameras and picture-tube cameras requires operators to keep abreast of a number of technologies.

5. EDUCATION AND SKILLS

For students wishing to pursue a career in one of these occupations, a number of educational avenues are open, ranging from a community college diploma in photography to a course in a private photography school or an apprenticeship. For movie camera operators, a community college diploma in film with courses in photography is necessary. For reporters/camera operators and television camera operators, a community college diploma in communications is a definite asset. Previous experience acquired as an amateur photographer, the ability to work with other people and a certain artistic talent are assets.

6. SALARY

According to the 1986 census, the average salary of these professionals was $25,758.

PRODUCERS AND DIRECTORS, PERFORMING AND AUDIO-VISUAL ARTS 3330

Examples: Filmmaker, Dramatic Director, Program Director, Broadcasting Producer, Stage Director

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,280	5,280	1,000	845	1,845

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
380	0	50	590	1,020

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	30.7	34.8	Under 25 years	7.2	-	Full-time	96.6	95.2
Males	69.3	65.2	Over 54 years	8.1	-	Part-time	3.4	4.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Communications (43)
- Radio and Television Broadcasting (43)

Amusement and Recreation Serv. (41)
- Movie Theatres (2)
- Film Production and Distribution (29)
- Theatrical Services (10)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to grow at a rate slightly above the average. These occupations are generally not practised by beginners since they require many years of experience, but by people who have the necessary experience. Jobs for radio and television directors are subject to budget cuts, making the employment outlook for this occupation dim. Technological changes have had an impact on the tasks of directors. Such innovations as computer-aided editing, mix-keying of digital reference codes and duplicating with a computer or VCR, mean that editing tasks are being divided between directors and technicians. Directors are playing an increasingly important role in the pre-editing of programs and commercials, which is still being done manually. New computerized editing equipment is used by technicians or editors in the final editing stage as well as the post-production stage. All the preparatory tasks for the final editing are carried out by directors. The expansion of films, commercials and videos may help open job opportunities for directors and producers. The growing reliance on external production may open up jobs for self-employed directors.

4. LABOUR MARKET TRENDS (cont'd)

Overall, the number of visitors and spectators at artistic events is increasing. Employment for directors is often dependent on the funds made available to them by private and public organizations, particularly in the areas of theatre and dance. The shrinking funds placed at the disposal of cultural organizers and increased competition for these funds among the various workers in the arts could slow down the employment growth for these professionals.

5. EDUCATION AND SKILLS

There is no particular training for these occupations, but a community college diploma or bachelor's degree in a relevant discipline may be useful. The main career paths leading to these occupations at the college level are a diploma in theatre production or in media arts and technology, and in filmmaking or drama at the university level. Most of the 1986 graduates who entered the labour market in these occupations had studied commerce and management in university. In this field, experience as artistic director in theatre, film, television and music as well as leadership qualities and organizational and managerial skills are as important as academic training. A sound knowledge of accounting, promotion, management and staging are valuable assets. This type of work requires the ability to work with professionals in other fields such as choreographers, sound technicians, distributors, etc.

6. SALARY

According to the 1986 census, the average salary of these professionals who were working full time was $34,508.

MUSICIANS AND SINGERS, PERFORMERS SPECIALIZED IN MUSIC AND MUSICAL ENTERTAINMENT

3332-3333

Examples: Accompanist, Instrumentalist, Pianist, Pop Singer, Soprano

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,675	5,080	1,405	945	2,350

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
190	0	55	515	760

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	57.3	Under 25 years	-	-	Full-time	-	61.7
Males	-	42.7	Over 54 years	-	-	Part-time	-	38.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (%)

Amusement and Recreation (67)
- Film Prod. and Distr. (1)
- Theatrical Services (66)

Accommodation and Food Serv. (16)
- Hotels and Motels (5)
- Restaurants, Caterers (11)

Community Services (6)
- Cultural Org. (6)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, given the employment outlook in the entertainment, recreation, accommodation and food services sectors. The number of part-time jobs is very high. In general, the music industry is very competitive and requires a great deal of talent and skill. The increased use of recorded music in amusement establishments has slowed down the employment growth for musicians and singers. New technologies such as synthesizers have had a moderate impact on the employment outlook for this occupational group.

5. EDUCATION AND SKILLS

University studies in music are recommended for those contemplating a career as music instructor, composer, orchestra musician or conductor. Private singing courses are also a recognized means of training.

6. SALARY

According to the 1986 census, the average salary of musicians working full time was $20,674. The salary of performers specialized in music and musical entertainment was $16,991.

ACTORS 3335

Examples: Actor, Comedian, Mime

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,080	1,350	270	270	540

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
95	0	0	0	95

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	46.0	40.8	Under 25 years	-	-	Full-time	-	59.0
Males	54.0	59.2	Over 54 years	-	-	Part-time	-	41.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Amusement and Recreation (70)
- Movie Theatres (2)
- Film Prod. and Distr. (11)
- Theatrical Services (56)
- Misc. Services (1)

Communications (15)
- Radio and Television Broadcasting (15)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, given the labour market outlook in the recreation sectors. Labour market fluctuations have little impact on this occupational group. Seasonal variations are negligible and technological changes have no significant effect on these occupations. Part-time work is common for actors owing to the limited number of jobs and the keen competition. A large number of actors work in other occupations in order to earn a living at the same time as they are looking for acting jobs.

5. EDUCATION AND SKILLS

No mandatory training is required for this occupation. Most actors have received professional training at university, CEGEP, the National Theatre School or through an apprenticeship with a professional theatre company.

6. SALARY

According to the 1986 census, the salary of actors working full time was $24,298. The rate of remuneration varies considerably in this occupational group, depending on the type of work, whether or not the actor is on-camera, whether the actor has a leading role or is part of a group of performers. In 1986-87, the minimum amount paid by Radio-Canada to leading television actors was $389, while off-camera actors earned $282. In 1985, a film actor (10 or more lines of dialogue) earned a minimum of $311 a day, while an actor with fewer than 10 lines of dialogue earned a minimum of $209 a day. The minimum weekly pay received by local stage actors ranged from $284 to $454; touring stage actors earned between $669 and $839 a week.

RADIO AND TELEVISION ANNOUNCERS 3337

Examples: Newscaster, Radio Broadcaster, Record Librarian, Disc Jockey

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,815	1,940	125	280	405

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
475	0	140	0	615

OTHER IMPORTANT REQUIREMENTS

Entry in to the labour market may remain difficult.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	20.0	27.2	Under 25 years	27.3	-	Full-time	86.7	82.0
Males	80.0	72.8	Over 54 years	4.3	-	Part-time	13.3	18.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Communications (97)
- Radio and Television Broadcasting (97)

Amusement and Recreation (2)
- Theatrical Services (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at a below-average rate, and a labour surplus is expected over the next few years. In the radio and television sector, computerized management facilitates routing which consists of establishing a broadcasting schedule for programs, commercials and call letters during the course of the day. Music selection on the radio can be done through computers, according to pre-established criteria. Computerized management has and will continue to have a growing impact on the tasks of record librarians and broadcasters-operators. Computerization could reduce the tasks of these professionals to functional work, such as coding musical pieces and inputting data on video display units. Many jobs are on a contract basis.

5. EDUCATION AND SKILLS

A community college diploma in media arts and technology or a bachelor's degree in communications is required, depending on the specialization.

6. SALARY

According to the 1986 census, the average salary of radio and television announcers working full time was $30,081.

WRITERS AND EDITORS 3351

Examples: Advertising Ideas Person, Journalist, News Reporter, Critic, Technical Writer, News Editor, Picture Editor, Advertising (all industries)

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,680	13,170	3,490	3,110	6,600

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
615	0	100	665	1,380

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	38.8	48.3	Under 25 years	8.7	-	Full-time	93.3	91.5
Males	61.2	51.7	Over 54 years	12.1	-	Part-time	6.7	8.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Printing and Publishing (27)
- Publishing Only (12)
- Radio and Television Broad. (15)

Gov't Service (6)
- Other Federal Service (3)
- Provincial Service (3)

Misc. Services (21)
- Labour Org. & Trade Ass. (1)
- Misc. Services, n.e.c. (20

Business Services (6)
- Advertising Serv. (6)

Communications (18)
- Radio and Television Broadcasting (18)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. The increasing popularity of magazines, particularly specialized magazines, should spur employment opportunities for journalists and magazine article writers. Ready access to computerized databases making it possible to locate information rapidly, build a file and verify information makes journalists' work easier. Knowledge of databases and how to use them is an asset for these professionals. Knowledge of wordprocessing is becoming essential. The concentration of weekly publications should continue, thus increasing the number of weeklies distributed free of charge, to the detriment of sold weeklies. Consequently, the proportion of advertising in relation to information should increase. Moreover, the growing trend toward the exchange of articles among journalists rather than sending journalists on location could have an adverse effect on the growth of job opportunities for these professionals.

4. LABOUR MARKET TRENDS (cont'd)

In the television sector, the introduction of video cameras and computer-assisted editing has had an impact on the tasks of journalists and reporters, who now play a greater role in preliminary editing tasks, while the final editing is performed by technicians.

Qualifications related to journalism, such as media contact and the ability to work in a team are sought after in the public relations sector, and this could create job openings for journalists.

The complexity and quantity of scientific equipment requiring user's manuals should help to maintain the demand for technical writers. Certain technological changes in the publishing industry could give rise to employment opportunities for a new kind of writer. Desktop publishing using microcomputers, desktop publishing software and laser printers makes it possible to produce periodicals, newsletters, flyers and advertising posters at home. Business services in this area could increase. Basic knowledge of typesetting, composition and layout design is an asset. Advanced technologies such as word processors and computer software allow writers and editors to carry out their tasks more quickly and efficiently.

5. EDUCATION AND SKILLS

The qualifications required vary from one occupation to the next: for technical writers, a community college diploma in pure or applied science or a university degree in a related field is needed; for editors, editorial writers and journalists, a community college diploma in media arts and technology or a university degree in journalism or communications is necessary. Most of the graduates who were working full time in 1988 in the occupational group of writers and editors had completed either a bachelor's degree in performing and fine arts or in health sciences or a Diploma of Collegial Studies in mass communications.

6. SALARY

According to the 1986 census, the average salary of writers and editors working full time was $31,888. In 1988, two years after completing their studies, graduates working full time earned an average of $19,588.

TRANSLATORS AND INTERPRETERS 3355

Examples: Translator, Interpreter, Linguist

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1. LABOUR MARKET TRENDS FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,695	5,145	1,450	1,325	2,775

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
205	0	-	-	205

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	78.5	63.1	Under 25 years	-	-	Full-time	-	88.8
Males	21.5	36.9	Over 54 years	-	-	Part-time	-	11.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Misc. Services (30)
- Misc. Services, n.e.c. (30)

Gov't Service (27)
- Other Federal Services (21)
- Provincial Service (5)
- Local Gov't Serv. (1)

Finance, Ins. and Real Estate (4)
- Banks (2)
- Insurance Carriers (2)

Printing and Publishing (2)
- Publishing Only (2)

Health and Social Serv. (2)
- Hospitals (2)

Education (2)
- Universities and Colleges (2)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Job opportunities for translators are stimulated by the federal government's bilingualism policy. The need to translate the increasing number of scientific and technical manuals will spur the demand for those trained in this area. In addition to general knowledge, in-depth technical knowledge is an advantage. The capacity for ongoing professional development is becoming essential. In addition to translation, the tasks of translators are expanding to include adaptation, writing, co-writing and revision. Writing and communication skills are becoming increasingly important for translators. Access to computerized databases and the growing use of computers to translate texts, particularly technical texts, will facilitate the work of these professionals. As computer-assisted translation becomes more refined, the average volume of translation will increase, thus boosting job opportunities for translators since most machine- translated texts must be reworked and rewritten. Knowledge of word processing is a basic skill.

5. EDUCATION AND SKILLS

A university degree in translation or in modern languages and literature as well as the knowledge of English, French and sometimes a third language are required. No interpreter training program exists in Quebec, but a bachelor's degree in interpretation is offered in Ontario.

6. SALARY

According to the 1986 census, the average salary of those working full time in these occupations was $31,543.

COACHES, TRAINERS AND INSTRUCTORS, SPORTS AND RECREATION 3370

Examples: Physical Training Teacher, Athletic Coach, Recreational Supervisor, Sports and Recreation Manager

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
7,110	9,495	2,385	1,040	3,425

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
480	300	345	645	1,770

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	44.8	46.1	Under 25 years	51.9	-	Full-time	72.9	73.0
Males	55.2	53.9	Over 54 years	2.4	-	Part-time	27.1	27.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Amusement & Recreation Serv. (35)
- Golf Clubs (2)
- Misc. Services (33)

Accommodation and Food Serv. (4)
- Camping Grounds (4)

Education (21)
- Elem. and Sec. School (12)
- Post-secondary Inst. (5)
- Universities and Colleges (4)

Gov't Service (21)
- Other Federal Service (1)
- Local Gov't Service (20)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, based on the outlook in the recreational and related services sector. The forecast is based on the increase in the population's income, which should translate into more time spent in recreational activities. Also, growing public awareness of the importance of good health may boost demand for those working in sports. Competition on the job market is stiff between university graduates in recreation or physical education and community college graduates in special education.

5. EDUCATION AND SKILLS

The qualifications required for these occupations range from a community college diploma to a university degree in the relevant field.

6. SALARY

According to the 1986 census, the average salary of coaches, trainers and instructors in sports and recreation working full time was $25,347.

SECRETARIES AND STENOGRAPHERS 4111

Examples: Legal Secretary, Executive Secretary, Stenotypist, Medical Secretary, Stenotype Operator, Secretarial Clerk, Secretary

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
140,080	157,885	17,805	42,660	60,465

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
12,580	12,670	11,820	1,630	38,700

OTHER IMPORTANT REQUIREMENTS

Skills in a range of fields are in demand, and especially in operation of automated office equipment.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	98.5	98.6	Under 25 years	32.1	-	Full-time	91.2	87.2
Males	1.5	1.4	Over 54 years	5.4	-	Part-time	8.8	12.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Serv. (12)
- Hospitals (6)
- Related Health Care Inst. (2)
- Physicians' Off. (4)

Business Services (8)
- Accountants' Off. (1)
- Eng. and Scientific Serv. (1)
- Lawyers' and Notaries' Off. (5)
- Misc. Serv. (1)

Gov't Service (12)
- Other Federal Service (3)
- Provincial Service (6)
- Local Gov't Service (3)

Education (8)
- Elem. and Sec. Schools (6)
- Universities and Colleges (2)

Fin., Ins. and Real Estate (9)
- Banks (3)
- Insurance Carriers (3)
- Ins. & Real Estate Agencies (3)

4. LABOUR MARKET TRENDS

Below-average employment growth is expected, but the large size of this occupational group practically guarantees a large number of job openings. The introduction of new technologies has had an impact on the duties of secretaries and has brought about a revaluation of their role. The increasingly widespread use of word processing reduces the time devoted to typing and increases office and management tasks. In a number of cases, secretarial tasks are shifting toward assistant administrative work, in addition to word processing tasks. Besides word processing, many specific applications of office automation, such as electronic spreadsheets and databases, can be integrated and this requires greater skills on the part of secretaries. Candidates who have taken courses in data processing increase their chances for employment and promotions. Because of their knowledge of new work tools, secretaries may be called on to play a role in introducing management personnel to office automation and

4. LABOUR MARKET TRENDS (cont'd)

providing them with further training. Secretarial jobs often involve a variety of duties, such as reception, computer operation and bookkeeping. Employers are increasingly looking for secretaries with skills in a range of fields, and especially in the operation of automated office equipment. There is a shortage of bilingual secretaries.

6. EDUCATION AND SKILLS

Completion of either the secondary vocational course in business techniques or the community college secretarial science program is required. Graduates who have completed studies in a related field and who have the necessary skills may also enter this occupational group. Familiarity with word processing and other automated office equipment is increasingly in demand, and bilingualism is often necessary.

6. SALARY

According to the 1986 census, the average salary of secretaries and stenographers working full time was $17,711.

TYPISTS AND CLERK-TYPISTS 4113

Examples: Telex Operator, Typist, Word Processing Operator, Clerk-Typist, Teletypist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENING			JOB OPENING DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,660	5,125	-535	1,440	905

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL JOB OPENINGS 1989-2000
950	325	0	0	1,275

OTHER IMPORTANT REQUIREMENTS

Knowledge of word processing is a major asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	98.4	96.1	Under 25 years	42.3	-	Full-time	91.9	87.7
Males	1.6	3.9	Over 54 years	4.9	-	Part-time	8.1	12.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (25)
- Defence Service (1)
- Other Federal Service (7)
- Provincial Service (11)
- Local Gov't Service (6)

Health and Social Services (7)
- Hospitals (6)
- Related Health Care Inst. (1)

Fin., Ins. and Real Estate (15)
- Banks (6)
- Insurance Carriers (6)
- Ins. & Real Estate Agencies (3)

Communication (5)
- Radiobroadcasting & Telecommun. (1)
- Telephone Systems (4)

Business Services (8)
- Employment Agencies (2)
- Accountants' Off. (1)
- Lawyers' & Notaries' Off. (1)
- Misc. Services (4)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to decrease. New job openings will be created mainly through attrition of the present labour force. Part-time work is expected to be plentiful. Technological changes have had the effect of eliminating a number of document preparation tasks for typists. With the advent of word processors, typing duties are increasingly confined to tasks related to word processing, particularly when the work is organized in the form of pools. The introduction of word processors has also created several new occupations, such as formatting specialists, correction entry clerks, word processing supervisors and training specialists. Specialized tasks are often carried out by a word processing specialist. Prospects are best for those who upgrade their skills and who have a knowledge and experience in operating automated office equipment, especially word processors and microcomputers. The ability to type in both French and English is a major asset.

5. EDUCATION AND SKILLS

Completion of the secondary vocational course in business techniques, stenographer-typist or office assistant option, or the regular secondary course with emphasis on typing is generally necessary. Normal requirements are a typing speed of 40 to 60 words per minute and good spelling. Ability to operate a word processor is increasingly required. Bilingualism is an asset. Depending on the type of business, knowledge of the dictaphone, telex, bookkeeping, billing, order taking and filing may be required.

6. SALARY

According to the 1986 census, the average salary of typists and clerk-typists working full time was $17,403.

BOOKKEEPERS AND ACCOUNTING CLERKS 4131

Examples: Ledger Clerk, Cost Clerk, Accounting Clerk, Accounts Receivable Clerk, Assessment Clerk NEC, Bookkeeping Clerk, Payroll Clerk

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
84,500	89,610	5,110	24,745	29,855

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
5,860	1,445	2,910	2,170	12,385

OTHER IMPORTANT REQUIREMENTS

Knowledge of computer systems is a major asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	75.5	78.6	Under 25 years	-	-	Full-time	-	84.1
Males	24.5	21.4	Over 54 years	-	-	Part-time	-	15.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Service (9)
- Food Stores (2)
- General Merchandise Stores (2)
- Motor Vehicle Dealers (1)
- Motor Vehicle Repair Shops (2)
- Household Furn. Stores (1)
- Retailers, n.e.c. (1)

Fin., Ins. & Real Estate (8)
- Banks (4)
- Insurance Carriers (2)
- Ins. & Real Estate Agencies (2)

Gov't Service (8)
- Other Federal Service (4)
- Provincial Service (2)
- Local Gov't Service (2)

Construction Ind. (6)
- Building Constr. (2)
- Special-trade Contr. (4)

Wholesale Trade (5)
- Food (1)
- Machinery, n.e.c. (2)
- Lumber & Building Mat. (1)
- Wholesalers, n.e.c. (1)

Business Services (5)
- Accountants' Off. (4)
- Misc. Services (1)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast, mainly because of the computerization of accounting systems. Most of the jobs that will be available from now until the year 2000 will be created through attrition of the present labour force. The ongoing improvement of microcomputers and their applications will determine the job opportunities for bookkeepers and accounting clerks. Technological advances are improving electronic processing, with the result that small business computers and cash registers can now perform a variety of bookkeeping and inventory functions. This will tend to reduce job opportunities for bookkeepers. Prospects are best for those

4. LABOUR MARKET TRENDS (cont'd)

with knowledge of information systems and data entry. Knowledge of computer software (both integrated and customized accounting packages) designed for such applications as accounts payable and receivable, financial records, billing, etc. is essential for these professionals. The duties of bookkeepers and accounting clerks are shifting away from manual work toward work on computer terminals. Accounting clerks' jobs are tending to shift toward "computer technician" jobs. Knowledge of database and statistics processing software and software packages such as Lotus 1-2-3 or Data Base II and III is a definite asset. Use of electronic data processing has led to the creation of various specialized areas within this occupational group, such as accounts payable and receivable clerks, payroll clerks, inventory clerks, etc.

5. EDUCATION AND SKILLS

Completion of the secondary vocational course in business techniques, accounting clerk option, is required for payroll, accounting and bookkeeping clerks. In the case of bookkeeping, however, employers encourage continuing study at the university level on a part-time basis. For posting clerks, secondary school completion in the office clerk option is necessary. Assistant accountants require a community college diploma in business administration. Specific skills on certain computerized accounting systems are sometimes required. Knowledge of data processing is a major asset.

6. SALARY

According to the 1986 census, the average salary of bookkeepers and accounting clerks working full time was $18,945.

CASHIERS AND TELLERS 4133

Examples: Electronic Cash Register Cashier, Bank Teller, Cashier Box Office, Ticket Agent, Grocery Checker, Self-Serve Gas Station Cashier

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
78,840	108,920	30,080	21,135	51,215

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL JOB OPENINGS 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
8,350	4,030	2,700	1,095	16,175

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	90.6	89.1	Under 25 years	52.3	-	Full-time	67.4	57.7
Males	9.4	10.9	Over 54 years	3.4	-	Part-time	32.6	42.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (51)
- Food Stores (31)
- General Merch. Stores (8)
- Hardware Stores (2)
- Drug Stores (4)
- Wine and Beer Stores (1)
- Tobacconists (1)
- Retailers, n.e.c. (2)

Finance, Insurance and Real Estate (25)
- Banks (25)

Accommodation and Food Services (11)
- Restaurants (11)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, based on the growing importance that is being placed on more varied and personalized services. Cashiers' employment opportunities, often of a part-time nature, exist in all sorts of retail businesses. Such technological changes as on-line computers, automated teller machines and electronic cash registers have changed the duties of cashiers. In the retail sector, particularly supermarkets, a laser beam scanner linked to the central computer makes it possible to carry out several tasks at once: the prices of items are determined automatically, the bill is prepared and the store's inventory is revised. Experience in operating an electronic cash register is increasingly required. In the banking sector, technological advances are limiting the growth of bank tellers' employment opportunities. Bank tellers' duties are changing dramatically: electronic fund transfer (EFT) means that the physical transfer of paper bank notes, cheques and money orders is replaced

4. LABOUR MARKET TRENDS (cont'd)

with messages sent by electronic impulses; automated teller machines (ATMs) allow customers to make cash withdrawals and deposits, deposit cheques, and transfer funds between accounts. Counter terminals are now equipped to enable tellers to update deposit information and other data, a task that used to be performed by data entry clerks at the computer centre.

Cashiers with new qualifications in terms of new technologies face better job opportunities. The wider variety of financial products offered and the increased concern on the part of banks and financial institutions to provide more personalized services could expand the cashier's role to include sales and the ability to offer clients a range of products suitable for their needs. Skills in human relations and in sales may become assets.

5. EDUCATION AND SKILLS

Secondary school graduation and on-the-job training for a period of one to six months are generally required. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of cashiers working full time was $13,937.

INSURANCE, BANK AND OTHER FINANCE CLERKS 4135

Examples: Securities Clerk, Bank Clerk, Brokerage Clerk, Foreign Exchange Clerk

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
14,520	20,935	6,415	4,685	11,100

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
445	85	170	0	700

OTHER IMPORTANT REQUIREMENTS

The computerization of many transactions has brought about a re-orientation of clerks' duties.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	80.9	85.1	Under 25 years	37.2	-	Full-time	96.3	91.3
Males	19.1	14.9	Over 54 years	41.8	-	Part-time	3.7	8.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance and Real Estate (95)
- Banks (82)
- Other Credit Institutions (2)
- Insurance Carriers (8)
- Insurance and Real Estate Agencies (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, based on the outlook in the insurance sector. The growing use of computer technology will eliminate even more of the tasks performed by this occupational group, but will create others. Office automation has reduced the number of repetitive tasks performed by finance clerks and has increased their efficiency. In insurance, clerks' duties have been reorganized as a result of technological changes. Many archival tasks have been computerized. Contract standardization has eliminated many of the duties formerly assigned to policy writers. Now it is the computer that decides whether or not to accept the proposed risk and determines and prints out the terms and rates. Policy writing clerks have to enter and code computer data. Writing and archiving are done simultaneously. The use of software packages has made the tasks of raters (those who calculated insurance rates) redundant. However, with access to computer files and rates, insurance clerks can spend more time meeting with customers and doing file analysis. In banking, network reorganization and the computerization of many transactions have brought about a reorientation of clerks' duties toward the analysis of customer files and the provision of a widening range of services. The deregulation of the financial and insurance sectors means that clerks may have to acquire different skills and provide different

4. LABOUR MARKET TRENDS (cont')

services. Skills in human relations and sales are in demand, along with a knowledge of computers and data processing. The number of part-time positions in these occupations should climb rapidly.

5. EDUCATION AND SKILLS

For insurance clerks, a community college diploma in business administration, insurance option, is an advantage. Bank clerks should have a community college diploma in business administration, finance option. For credit clerks and real estate clerks, secondary school graduation is essential. In general, familiarity with computer systems and human relations and sales skills are assets.

6. SALARY

According to the 1986 census, the average salary of insurance, bank and finance clerks working full time was $18,969.

STATISTICAL CLERKS 4137

Examples: Statistics Clerk, Compiler, Actuarial Clerk

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,100	930	-170	295	125

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
35	70	0	0	105

OTHER IMPORTANT REQUIREMENTS

The use of microcomputers and data processing software is widespread.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	65.0	70.9	Under 25 years	27.6	-	Full-time	96.8	86.6
Males	35.0	29.1	Over 54 years	9.2	-	Part-time	3.2	13.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (49)
- Other Federal Service (40)
- Provincial Service (5)
- Local Gov't Service (4)

Business Services (5)
- Accountants' Off. (1)
- Management Cons. Off. (1)
- Misc. Services (3)

Transp., Comm. & Other Util. (10)
- Air Transport (2)
- Serv. Inc. to Air Transp. (1)
- Other Truck Transp. (1)
- Urban Transit Systems (2)
- Radio & Television Broadcasting (1)
- Telephone Systems (2)
- Electric Power (1)

Fin., Ins. and Real Estate (3)
- Banks (1)
- Insurance Carriers (2)

Health and Social Services (6)
- Hospitals (4)
- Related Health Care Inst. (2)

4. LABOUR MARKET TRENDS

Job opportunities are expected to diminish from now until the year 2000. Job openings will be created mainly through attrition of the present labour force. This situation is brought about by the relative stability of the labour force in the public administration sector and by the introduction of new data processing technologies. The growing use of microcomputers by the users themselves who can accomplish their tasks and carry out certain statistical operations normally assigned to statistics clerks, could reduce the demand for these clerks. The increasingly widespread use of software that can process data should bring about a reduction in employment for statistics clerks and a change in the required qualifications. Employment opportunities are best for candidates

4. LABOUR MARKET TRENDS (cont'd)

who know how to key in and process data on the computer. New technologies are reducing the manual tasks carried out by statistics clerks and increasing terminal-related tasks. For calculations and transactions, database and statistics processing software such as Lotus 1-2-3 or Data Base II, III are frequently used. Familiarity with the main software packages is a major asset.

5. EDUCATION AND SKILLS

Completion of the secondary vocational course, accounting clerk option, is required. Knowledge of how to operate data processing equipment and microcomputers is a definite asset.

6. SALARY

According to the 1986 census, the average salary of statistical clerks working full time was $23,098.

SUPERVISORS OF OFFICE MACHINE OPERATORS 4140

Examples: Electronic Data Processing Equipment Operator, Blueprinting-Machine Operator, Photocopy Machine Operator

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,065	1,105	40	200	240

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
20	0	0	0	20

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	49.3	50.2	Under 25 years	-	-	Full-time	-	97.0
Males	50.7	49.8	Over 54 years	-	-	Part-time	-	3.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Fin., Ins. and Real Estate (15)
- Banks (10)
- Investment Companies (1)
- Insurance Carriers (4)

Business Services (11)
- Computer Services (7)
- Accountants' Off. (2)
- Eng. and Scient. Serv. (1)
- Misc. Services (1)

Communication (5)
- Radio Broadcasting (1)
- Telephone Systems (4)

Education (4)
- Elem. and Sec. Schools (1)
- Universities and Colleges (3)

Transportation (4)
- Railway Transport (4)

Electrical Prod. Ind. (3)
- Communications Equip. Man. (3)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Most job openings will be created through attrition of the present labour force. Despite the advent of new technologies, supervision and co-ordination duties should remain the responsibility of supervisors of office machine operators. Nonetheless, the traditional role of these supervisors is expanding to include training personnel to use new equipment and supervision of computer systems used by personnel reporting to them. Computer systems that continually monitor the amount of work being done by operators in charge of keying in data facilitate the tasks of supervisors.

5. EDUCATION AND SKILLS

Companies tend to recruit supervisors from among the most skilled operators who usually have a high- school diploma.

6. SALARY

According to the 1986 census, the average salary of supervisors of business machine operators working full time was $29,946.

ELECTRONIC DATA PROCESSING EQUIPMENT OPERATORS 4143

Examples: Electronic Data Processing Equipment Operator, Computer Operator, Digital Calculator Operator, Computer Peripheral Equipment Operator

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
25,120	38,340	13,220	6,795	20,015

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,535	95	15	605	2,250

OTHER IMPORTANT REQUIREMENTS

Technological changes have had an impact on the number of these operators and their tasks.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	76.4	78.1	Under 25 years	39.9	-	Full-time	95.1	92.1
Males	23.6	21.9	Over 54 years	2.6	-	Part-time	4.9	7.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (14)
- Other Federal Service (7)
- Provincial Service (5)
- Local Gov't Service (2)

Business Services (13)
- Employment Agencies (1)
- Computer Services (6)
- Accountants' Offices (1)
- Scientific Studies and Services (2)
- Lawyers' & Notaries' Off. (1)
- Misc. Services (2)

Finance, Insurance and Real Estate (13)
- Banks (7)
- Insurance Carriers (4)
- Insurance and Real Estate Agencies (2)

Transportation, Communication and Other Utilities (7)
- Air transport (1)
- Railway transport (2)
- Telephone Systems (3)
- Electric Power (1)

Education (5)
- Elem. and Sec. Schools (2)
- Universities and Colleges (3)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, given the outlook in the finance and business services sectors and the positive impact of technological changes on the field. Most of the employment opportunities will be more the result of the increase in the number of new jobs than jobs vacated through attrition. Technological changes have had an impact on the tasks of these operators. The job of keypunch operator is tending to disappear as the use of perforated cards is becoming increasingly rare. In the case of electronic data processing equipment operators, terminals connected to mainframes are being replaced by microcomputers and digital disks, and laser printers are being added to existing peripherals. Operators whose tasks are essentially related to data capture and input

4. LABOUR MARKET TRENDS (cont'd)

could see their job prospects diminish since more and more users are operating their own microcomputers. The duties of operators may increasingly include support to users and equipment maintenance. In the long term, equipment maintenance and repair could take up an ever greater portion of machine operators' tasks at the expense of their role as equipment operators. Candidates with aptitudes in these areas will face a brighter employment outlook. In the short term, however, the number of job openings for workers who input data directly and operators of other equipment should continue to grow. Operators in charge of terminals or peripherals should face a steady demand.

Many positions are evening or night jobs, and workers are sometimes required to do overtime.

5. EDUCATION AND SKILLS

Generally, completion of a secondary vocational course in business techniques, data processing option, is required. However, those who enter this occupational group with postsecondary studies enjoy a competitive advantage on the labour market.

6. SALARY

According to the 1986 census, the average salary of electronic data processing equipment operators working full time was $19,508.

PRODUCTION CLERKS 4151

Examples: Material Checker, Production Control Clerk, Stock Chaser, Production Clerk, Production Co-ordinator

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,240	1,575	-665	340	-325

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
170	0	0	0	170

OTHER IMPORTANT REQUIREMENTS

Technological changes have an impact on this occupational group.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	31.3	35.2	Under 25 years	26.1	-	Full-time	97.0	95.9
Males	68.7	64.8	Over 54 years	10.3	-	Part-time	3.0	4.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Wholesale Trade (17)
- Food (1)
- Apparel (1)
- Electrical Machinery (2)
- Wholesalers, n.e.c. (1)
- Lumber and Building Mat. (1)
- Food Stores (2)
- General Merchandise Stores (6)
- Hardware Stores (1)
- Wine and Beer Stores (1)
- Retailers, n.e.c. (1)

Chemical & Chem Prod. Industries (3)
- Pharmaceutical Prod. (1)
- Toilet Preparations (1)
- Misc. Chemical Ind. (1)

Transp., Comm., & Other Util. (5)
- Other Truck Transport (2)
- Other Storage & Warehousing (1)
- Telephone Systems (1)
- Electric Power (1)

Clothing Industries (4)
- Men's Clothing Ind. (1)
- Women's Clothing Ind. (2)
- Children's Clothing Ind. (1)

Paper Industries (3)
- Pulp and Paper Mills (2)
- Paper Box and Bag Man. (1)

Rubber and Plastics Prod. Ind. (4)
- Rubber Prod. (2)
- Plastic Prod. (2)

Transportation Equip. Ind. (3)
- Aircraft & Aircraft Parts (2)
- Motor Vehicles (1)

4. LABOUR MARKET TRENDS

Forecasts indicate that this occupational group will see a reduction in its volume of employment. Job openings will be created through attrition and are not expected to compensate for the anticipated loss of employment. The labour market outlook for this occupational group is linked to the forecast growth in the manufacturing and commercial sectors. Employment for this group is also affected by technological changes. New computerized systems for stock management, statistical control, automated payment authorizations and other innovations, are tending to reduce the need for production clerks.

4. LABOUR MARKET TRENDS (cont'd)

Production planning is tending to become more complex with the introduction of new machinery. Some industries are particularly affected by this development. Increasing importance is therefore being given to planning support, and this could maintain employment opportunities for production clerks, especially for those involved in production co-ordination and monitoring. These clerks will have to have a knowledge of production equipment and computer systems.

5. EDUCATION AND SKILLS

The minimum requirement for entry to these occupations is a high-school diploma with, preferably, courses in mathematics, typing, office machinery and accounting. For production co-ordination jobs, a community college diploma in industrial management is required. Knowledge of computer system used in the field is an important asset.

6. SALARY

According to the 1986 census, the average salary of production clerks working full time was $23,045.

SHIPPING AND RECEIVING CLERKS 4153

Examples: Delivery Clerks, Freight Clerk, Dispatcher Clerk, Receiving Clerk, Freight Agent

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
23,305	23,145	-160	3,925	3,765

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,940	600	105	0	2,645

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	15.7	16.9	Under 25 years	39.7	-	Full-time	95.3	94.4
Males	84.3	83.1	Over 54 years	9.5	-	Part-time	4.7	5.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Wholesale Trade (19)
- Food (4)
- Drugs (1)
- Apparel (3)
- Motor Vehicles (3)
- Electrical Machinery (2)
- Wholesalers, n.e.c. (2)
- Hardware (1)
- Lumber and Building Materials (1)

Transportation (3)
- Railway Transport (1)
- Other Truck Transport (2)

Retail Trade (14)
- Food Stores (5)
- General Merch. Stores (5)
- Hardware Stores (1)
- Furniture Stores (1)
- Drug Stores (1)
- Retailers, n.e.c. (1)

Clothing Industries (7)
- Men's Clothing Ind. (2)
- Women's Clothing Ind. (3)
- Misc. Clothing Ind. (2)

4. LABOUR MARKET TRENDS

Employment for this occupational group is expected to decrease slightly. Job openings will be created mainly through attrition of the present labour force. Since most shipping clerks work in the manufacturing and commercial sectors, employment in this occupational group is sensitive to economic conditions. This group does not seem particularly sensitive to technological changes in the medium term. While many of the tasks performed by these workers will continue to be done manually, computerization will affect store and warehouse inventory control and records management. In the long term, such technological improvements as computer links at the point of sale allowing direct stock control, risk limiting employment growth in this occupational group. Shipping and receiving clerks must be familiar with the different modes of transportation and related regulations.

5. EDUCATION AND SKILLS

No specific qualifications are required for these occupations, though candidates with a high-school diploma are generally preferred. Most workers in this occupational group start out as warehouse workers. Most employers provide a four- to six-week on-the-job training period.

6. SALARY

According to the 1986 census, the average salary of shipping and receiving clerks working full time was $19,338.

STORE CLERKS AND RELATED OCCUPATIONS 4155

Examples: Purchasing Clerk, Stock Clerk, Tool Clerk, Warehouse Clerk, Storekeeper, Stock Handler, Inventory Clerk, Wine Cellar Clerk

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOBS OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
24,735	27,710	2,975	5,140	8,115

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,495	1,000	20	645	3,160

OTHER IMPORTANT REQUIREMENTS

This occupational group is affected by new technologies.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	20.2	20.5	Under 25 years	-	-	Full-time	-	93.2
Males	79.8	79.5	Over 54 years	-	-	Part-time	-	6.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (17)
- Food Stores (3)
- General Merch. Stores (7)
- Tire Stores (1)
- Motor Vehicle Dealers (3)
- Drug Stores (2)
- Retailers, n.e.c. (1)

Education (7)
- Elem. and Sec. Schools (4)
- Post-secondary Inst. (2)
- Universities and Colleges (1)

Wholesale Trade (12)
- Food (2)
- Apparel (1)
- Motor Vehicles (2)
- Electrical Machinery (1)
- Wholesalers, n.e.c. (2)
- Hardware (1)
- Lumber and Building Mat. (1)
- Wholesalers, n.e.c. (2)

Gov't Service (8)
- Defence Services (2)
- Other Federal Service (2)
- Provincial Service (2)
- Local Gov't Service (2)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. The labour market outlook for this occupational group is affected by the automation of inventory control systems. The use of computer technology to maintain perpetual inventories, determine optimum stock levels automatically, and facilitate records management is tending to depress demand for stock clerks. In the sales sector, computerized cash registers automatically control inventories and prepare the order forms necessary to replenish supplies when stock levels are too low. Equivalent systems are used in manufacturing companies. The widespread use of these systems could cause employment opportunities for this occupational group to decline.

5. EDUCATION AND SKILLS

No special qualifications are needed for these occupations, but employers generally prefer secondary school graduates. On-the-job training is often required.

6. SALARY

According to the 1986 census, the average salary of stock clerks and those in related occupations working full time was $21,378.

RECEPTIONISTS AND INFORMATION CLERKS 4171

Examples: Admitting Clerk, Hospital Information Clerk, Tourist Information Clerk, Receptionist, Information Clerk, Hospital Admitting Clerk

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
31,335	41,250	9,915	10,785	20,700

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
3,680	1,200	245	765	5,890

OTHER IMPORTANT REQUIREMENTS

Knowledge of office automation is an asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	89.5	89.3	Under 25 years	35.4	-	Full-time	82.2	79.6
Males	10.5	10.7	Over 54 years	8.5	-	Part-time	17.8	20.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Serv. (22)
- Hospitals (12)
- Related Health Care Inst. (3)
- Physicians' Off. (3)
- Off. of Para-medical Pers. (2)

Gov't Service (12)
- Other Federal Serv. (4)
- Provincial Serv. (6)
- Local Gov't Serv. (2)

Finance, Ins. and Real Estate (7)
- Banks (2)
- Insurance Carriers (2)
- Ins. & Real Estate Agencies (2)
- Real Estate Operators (1)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Technological advances should not affect the demand for receptionists. In most cases, innovation means providing work stations with terminals and microcomputers equipped with electronic mail. Moreover, the widespread use of office automated equipment, such as word processing machines, electronic diaries and computerized databases will facilitate receptionists' tasks. Candidates with a knowledge of these systems have an advantage. In general, knowledge of typing and word processing is an asset. This occupational group may be adversely affected by the advent of integrated voice messaging systems (IVMS), automatic information tellers and videotex systems (where a keyboard and a television receiver are used to obtain a display of information organized in magazine form). However, these systems are not very widespread at the present time. More and more hotel reception desks are being equipped with microcomputer systems for registering arrivals and reservations and calculating transactions; this will likely affect receptionists' employment opportunities as well as their duties. In hospitals, admitting clerks must be familiar with microcomputers since the use of computerized systems for admitting patients is widespread.

5. EDUCATION AND SKILLS

Completion of the secondary vocational course in business techniques, receptionist-telephone operator option, is required. Bilingualism is required. Experience in communications is an asset.

6. SALARY

According to the 1986 census, the average salary of receptionists and admitting clerks working full time was $16,774.

CLAIM ADJUSTERS 4192

Examples: Complaint Clerk, Claim Adjuster

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,090	1,175	85	250	335

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
90	0	0	115	205

OTHER IMPORTANT REQUIREMENTS

Deregulation of the financial sector and computerization have affected this occupational group.

2. MAIN CHARACTERISTICS (1986 %)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	54.8	62.1	Under 25 years	26.7	-	Full-time	95.2	96.7
Males	45.2	37.9	Over 54 years	9.5	-	Part-time	4.8	3.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Fin., Ins. and Real Estate (29)
- Banks (2)
- Other Credit Agencies (2)
- Insurance Carriers (25)

Transportation (8)
- Air Transport (2)
- Railway Transport (3)
- Other Truck Transport (3)

Retail Trade (14)
- General Merchandise Stores (5)
- Motor Vehicle Dealers (9)

Gov't Service (9)
- Other Federal Serv. (4)
- Provincial Serv. (4)
- Local Gov't Serv. (1)

4. LABOUR MARKET TRENDS

Employment for this occupational group should remain relatively stable. Most of the job openings will be created through attrition of the present labour force. With the deregulation of the financial sector, financial services may be offered by insurance companies, and insurance products by other financial institutions. This increased competition between firms has forced many small insurance firms to merge with larger ones. It is the number of small general insurance firms that have declined the fastest. The trend toward company mergers is expected to continue over the next few years. The result of this could be a dimmer employment outlook for complaint clerks and claim adjusters. Computerization of many insurance transactions is under way in almost all insurance companies. Computer systems can be used to accomplish a number of tasks, such as filing claims. Information provided by these systems, i.e. the clauses of the original contract for each insured person, whether the policy is for replacement cost or covers specific goods only, the extent of the coverage and its limitations, facilitate

4. LABOUR MARKET TRENDS (cont'd)

the tasks of adjusters. Those with a knowledge of these basic systems have a competitive edge. Moreover, the ability to show tact when dealing with customers, particularly in difficult situations, is sought after. Investigations often require adjusters to work evenings and weekends in order to meet people outside office hours.

5. EDUCATION AND SKILLS

A community college diploma in business administration, insurance option, is usually necessary. Some employers require their claim adjusters to complete a three-to-five year course outside of working hours that is funded by the Insurance Institute of Canada. Independent insurance adjusters in Quebec must have a license issued by the Inspector General of Financial Institutions.

6. SALARY

According to the 1986 census, the average salary of claim adjusters working full time was $20,503.

OTHER TRAVEL CLERKS, TICKET, STATION AND FREIGHT AGENTS 4193

Examples: Shipping Agent, Ticket Agent, Baggage Clerk, Reservation Clerk, Travel Clerk, Travel Consultant, Rail-Express Clerk, Freight Forwarding Clerk (Imports and Exports)

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,945	7,645	1,705	1,720	3,425

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
445	0	590	635	1,670

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	58.6	65.7	Under 25 years	-	-	Full-time	-	87.4
Males	41.4	34.3	Over 54 years	-	-	Part-time	-	12.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (93)
- Air Transport (28)
- Services Incidental to Air Transport (2)
- Railway Transport (8)
- Urban Transit Systems (3)
- Misc. Services Incidental to Transport (52)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. The employment outlook in this occupational group is generally very sensitive to economic conditions. In the short term, job prospects may decline due to difficulties in the air transport sector. In the long term, the employment outlook should brighten due to the increase in average disposable incomes and the growing popularity of travel. The automation of travel services has made it possible to provide numerous related services. For instance, car rental companies are increasingly using computer systems for reservations and inventory control. Computer technology also allows passengers to pay for both hotel accommodations and car rental at the airport. Computerized reservation systems are becoming more widespread in travel agencies. Travel and ticket agents frequently perform tasks requiring the use of computer equipment, such as making reservations and issuing tickets. The growing use of these new technologies could have an adverse effect on the demand for ticket agents, particularly within airlines that employ automatic machines with a computer-controlled videodisc scanner to provide information on flights and even issue tickets without an agent's assistance.

4. LABOUR MARKET TRENDS (cont'd)

Workers in this occupational group are often in direct or indirect contact with customers. Good communication skills are an asset and bilingualism is essential. Previous experience is also an important consideration. Computer technology may transform the travel distribution system: a direct link may be possible between the supplier and customers, who will be able to plan their trips with the help of technical information provided by the supplier. The role of travel agents could shift toward that of travel consultants working in the capacity of human relations specialists who are able to identify their customers' travel needs. Knowledge of a second language is an important asset and a knowledge of several languages may be an advantage for promotion and distribution outside Quebec. Knowledge of human relations, marketing, geography and land resources is in demand.

5. EDUCATION AND SKILLS

Entry to the occupation of tourist information clerk and travel agent requires a community college diploma in tourism. For ticket agents, employers offer a general on-the-job training program. A good knowledge of geography, mastery of a second language, good interpersonal skills and an aptitude for sales are assets.

6. SALARY

According to the 1986 census, the average salary of travel agents, ticket clerks and station agents working full time was $21,941.

SUPERVISORS: SALES OCCUPATIONS, COMMODITIES 5130

Examples: Vegetable Buyer, Antique Dealer, Jeweller, Grocer, Exporter, Lumber Yard Supervisor, Oil Distributor, Importer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
22,320	19,455	-2,865	5,765	2,900

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,600	605	505	0	3,710

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	25.7	27.8	Under 25 years	9.4	-	Full-time	95.3	94.9
Males	74.3	72.2	Over 54 years	15.3	-	Part-time	4.7	5.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (65)
- Food Stores (23)
- General Merchandise Stores (4)
- Tire Stores (1)
- Gasoline Service Stations (2)
- Motor Vehicle Dealers (3)
- Shoe Stores (1)
- Men's Clothing Stores (2)
- Women's clothing Stores (3)
- Clothing and Dry Goods Stores, n.e.c. (4)
- Hardware Stores (3)
- Household Furniture Stores (5)
- Drug Stores (1)
- Florists' Shops (4)
- Jewellery Stores (2)

4. LABOUR MARKET TRENDS

Employment for this occupational group is expected to diminish over the next few years. Job openings will be created for the most part by the need to replace employees who leave the field. The increase in the number of small exclusive boutiques allows sales managers and proprietors to supervise sales personnel directly, thus eliminating the supervisory positions usually required in large department stores. With the computerization of cash registers and monitoring systems, the control of sales personnel is integrated into the functions of sales

4. LABOUR MARKET TRENDS (cont'd)

managers, thus reducing and even eliminating the need for supervisors. For exporters, knowledge of business law, of regulations and practices that apply to both Canadian and foreign producers, and of the laws and regulations governing exports and imports are important assets. Knowledge of the buyers' language is a definite competitive asset. For grocers, market trends and keen competition seem to confer an advantage to those who specialize. In fact, consumers' habits, attitudes and needs are changing. Product standardization is becoming less and less desirable, in favour of products that are adapted to the particular needs of the clientele. A higher standard of living and new consumer needs are creating a demand for food specialists (fruit stores, bakeries, etc.). Specialized grocery stores are competing more and more with large supermarkets. The appearance of huge warehouse stores and the increasing number of modern convenience stores offering more and more services (fast food, baked goods, etc.) are increasing the competition. Grocers who can offer clearly identifiable products will face a better employment outlook.

5. EDUCATION AND SKILLS

Generally speaking, a high-school diploma is an asset for retail store managers. Candidates must undergo on-the-job training. Requirements vary with the products or services offered. New candidates are finding it increasingly useful to have a community college diploma or a university degree in business administration, marketing or merchandising technology. However, it is possible for sales personnel to enter supervisory positions without any advanced schooling. Knowledge of the merchandise sold is a major asset. Bilingualism is often required.

6. SALARY

According to the 1986 census, the average salary of consumer goods sales supervisors working full time was $23,877.

TECHNICAL SALESMEN AND RELATED ADVISERS 5131

Examples: Market Support Computer Consultant, Heavy Equipment Technical Salesperson, Residential Energy Adviser, Industrial Machinery Salesperson, Data Processing Sales Representative

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,010	5,780	1,770	925	2,695

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
245	160	295	660	1,360

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.6	10.4	Under 25 years	15.1	-	Full-time	97.1	97.8
Males	90.4	89.6	Over 54 years	9.2	-	Part-time	2.9	2.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Wholesale Trade (36)
- Drugs (1)
- Elec. Machinery (14)
- Farm Machinery (2)
- Machinery, n.e.c (11)
- Hardware (2)
- Lumber and Building Mat. (1)
- Wholesalers, n.e.c. (5)

Construction Industry (7)
- Building Construction (1)
- Special-trade Contractors (6)

Business Services (8)
- Computer Services (6)
- Mgmt. Consultants' Off. (1)
- Misc. Services (1)

Transp., Comm., and Other Utilities (6)
- Telephone Systems (2)
- Electric Power (3)
- Gas Distribution (1)

Machinery Industries (7)
- Misc. Machinery Man. (3)
- Office Machinery Man. (4)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. About 1,800 new jobs will be created, to which may be added 1,000 jobs vacated through attrition of the present labour force. Demand for these professionals varies from one industry to the next. The growing interdependence between development, marketing and the sale of products and services means that technical sales and related advisory personnel are increasingly in demand. Technological changes have had little impact on the tasks of these professionals, though the use of portable computers to record orders, sales and correspondence is increasingly widespread. Employment opportunities are better in fields related to electronics. The computer consulting market should give rise to interesting opportunities for market support computer consultants.

4. LABOUR MARKET TRENDS (cont'd)

Most employment activity is concentrated in small and medium-sized businesses, and subcontracting for large consulting firms. The specialized areas of planning, computer system installation, personnel training and customized programming are most in demand. The introduction of such new technologies as robotics and the fields of education and training also offer good job opportunities. Technica' sales and related advisory personnel should have an in-depth knowledge of the products they are selling and the markets they are serving. An understanding of the product's technical characteristics and knowledge of the clientele's requirements are essential.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a community college diploma in a field related to the products or the services being sold. A first university degree in computer science, mechanical engineering or electrical engineering is desirable for those who wish to work as technical salespersons in the electronic data processing sector. Experience in related fields, ideally through the same distribution channels, is preferred by employers.

6. SALARY

According to the 1986 census, the average salary of technical sales and related advisory personnel working full time was $31,213.

COMMERCIAL TRAVELLERS 5133

Examples: Pharmaceutical Representative, Office Furniture Salesperson, Commission Salesperson, Commercial Sales Representative

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
22,760	19,480	-3,280	4,545	1,265

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,705	190	265	2,325	4,485

OTHER IMPORTANT REQUIREMENTS

Experience in sales and knowledge of the product are assets.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.4	15.4	Under 25 years	9.1	-	Full-time	97.6	96.8
Males	90.6	84.6	Over 54 years	13.1	-	Part-time	2.4	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Wholesale Trade (41)
- Petroleum Products (1)
- Paper and Paper Prod. (2)
- Food (6)
- Drugs (3)
- Apparel (3)
- Household Furniture (1)
- Motor Vehicles (2)
- Electrical Machinery (4)
- Machinery, n.e.c. (7)
- Hardware (2)
- Lumber and Building Mat. (2)
- Wholesalers, n.e.c. (8)

Food and Beverage Industries (5)
- Misc. Food Ind. (3)
- Beverage Ind. (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment in this occupational group will decrease. Job openings will be created mainly through attrition of the present labour force. The work of commercial travellers is assuming new value within companies since these professionals have become the link between the producer and the client, relaying information about the market to the former and about the product's technical characteristics to the latter. These salespersons are becoming increasingly specialized. An aptitude for sales and good communication skills are in demand. Bilingualism is an asset. These salespersons must often travel as well as work evenings and weekends.

5. EDUCATION AND SKILLS

Entry to this occupational group usually requires a high-school diploma. A community college diploma or a university degree in a field related to the products sold is an important asset, as well as courses in commerce and economics. In some cases, these credentials may even be mandatory. Employers may also require recruits to undergo an on-the-job training period of up to six months. However, interpersonal skills are even more important than training. Experience in sales and knowledge of the product sold are assets.

6. SALARY

According to the 1986 census, the average salary [illegible]mercial travellers working full time was $30,979.

SALESMEN AND SALESPERSONS, COMMODITIES, N.E.C. 5135

Examples: Counter Clerk, Meat Counter Clerk, Grocery Store Clerk, Automotive Parts Clerk, Hardware Salesperson, Building Supplies Salesperson

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
155,575	186,720	31,145	10,300	41,445

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
12,800	10,200	3,450	2,245	28,695

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	50.8	50.5	Under 25 years	37.0	-	Full-time	80.3	76.6
Males	49.2	49.5	Over 54 years	10.8	-	Part-time	19.7	23.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (73)
- Food Stores (15)
- General Merchandise Stores (14)
- Tire Stores (1)
- Motor Vehicle Dealers (4)
- Shoe Stores (3)
- Men's Clothing Stores (2)
- Women's clothing Stores (6)
- Stores, n.e.c. (7)
- Hardware Stores (3)
- Household Furniture Stores (5)
- Drug Stores (2)
- Book and Stationery Stores (1)
- Jewellery Stores (2)
- Retailers, n.e.c. (8)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. Personalized products and services are increasingly sought after by consumers. The number of small specialized boutiques should continue to grow, to the detriment of large department stores. Quality service in the retail trade is a competitive asset. Good interpersonal skills for meeting customer needs are in demand. A large number of traditional sales tasks are now

4. LABOUR MARKET TRENDS (cont'd)

carried out by electronic cash registers that serve a number of uses. Nonetheless, the number of sales clerks does not seem to be affected by this new technology. Such non-traditional tasks as the verification and rebuilding of stocks can now be carried out by sales clerks. Sales clerks are often required to work evenings and Saturdays.

5. EDUCATION AND SKILLS

No specific qualifications are needed. Training is often provided on the job. Supervisory positions, however, are easier to obtain with a high-school diploma. Experience in sales is an important asset. Bilingualism is often required.

6. SALARY

According to the 1986 census, the average salary of sales clerks and salespersons of commodity goods working full time was $19,118.

SUPERVISORS: SALES OCCUPATIONS, SERVICES 5170

Examples: Customs House Broker, Insurance Broker, Mortgage Broker, Grain Broker, Investment Broker, Stock Broker

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,220	4,465	245	1,275	1,520

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
115	0	0	515	630

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	21.6	23.4	Under 25 years	6.0	-	Full-time	97.3	96.8
Males	78.4	76.6	Over 54 years	15.9	-	Part-time	2.7	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance and Real Estate (85)
- Banks (2)
- Other Credit Agencies (1)
- Security Brokers and Dealers (9)
- Investment Companies (2)
- Insurance Carriers (30)
- Insurance and Real Estate Agencies (39)
- Real Estate Operators (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that the employment growth rate for this occupational group will remain relatively stable. Job openings will result mainly from the need to replace incumbents. Since these are management positions, candidates usually enter these occupations after several years of experience in a related field. Nearly 85% of service sales supervisors work in the financial, insurance and real estate sectors. Marketing skills are essential, along with specialized knowledge of the relevant financial sector. Real estate brokers are affected by the deregulation of this sector, which means that Canadian financial institutions can now hold 100% of the capital stock of brokerage firms and foreign companies. The securities industry is changing and we are seeing a trend toward the concentration of companies. Globalization of the market, clients who frequently invest outside the country, foreign competition and the free trade agreement, are all factors that exert a strong influence on brokerage firms. Employment opportunities are more numerous in large firms and in very specialized firms. The widespread use of computer software in the field of life insurance is changing the duties of supervisors of life

4. LABOUR MARKET TRENDS (cont'd)

sales and commissions as well as allowing the necessary corrections to be made in order to complete transactions. insurance sales. Electronic links between brokers and insurance firms are increasing, making it easier to monitor Knowledge of these software packages is an important asset for supervisors. However, computer technology has had an adverse effect on the demand for supervisors and sales supervisors by reducing job opportunities for these professionals. With the deregulation of the financial sector which allows banks to sell insurance products and insurance firms, financial products, the competition is much greater. The process of merging firms has begun. The concentration of firms should continue mainly in the area of general insurance and particularly for small insurance companies. This situation is causing job opportunities for supervisors to decline since rationalization often affects companies at the general management level.

5. EDUCATION AND SKILLS

The qualifications required vary with the occupation. In general, candidates should have a community college diploma or a university degree in business administration, marketing or economics. Some positions require a license from a licensing body in the activity sector concerned or type of service sold. For example, securities brokers must have completed a course in the securities trade in Canada offered by the Canadian Securities Institute. However, there are still a number of sales sectors where an employee can gradually work up to a supervisory position.

6. SALARY

According to the 1986 census, the average salary of sales supervisors working full time was $41,802.

INSURANCE SALESMEN AND AGENTS 5171

Examples: Insurance Appraiser, Claim Appraiser, Life Insurance Salesperson

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
17,820	19,510	1,690	4,850	6,540

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
180	75	265	560	1,080

OTHER IMPORTANT REQUIREMENTS

Deregulation of the financial sector is having an effect on insurance companies.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	25.4	30.0	Under 25 years	14.5	-	Full-time	97.5	96.8
Males	74.6	70.0	Over 54 years	12.8	-	Part-time	2.5	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance and Real Estate (99)
- Insurance Carriers (61)
- Insurance and Real Estate Agencies (38)

4. LABOUR MARKET TRENDS

Below-average employment growth is expected. In all, 6,540 jobs will open up, most of which will result from the need to replace current employees. The insurance sector is changing dramatically: lower birth rates, the aging of the population, double incomes and the deregulation of the financial sector are only some of the factors affecting the field of insurance. Consumers' attitudes toward life insurance are changing. Fifteen years ago, they spent 3% of their incomes on insurance, while now they spend only 1.7%. This downward trend can be explained by the increased participation of women in the job market, the low number of children per family, and the establishment of public federal and provincial pension plans. With longer life expectancies and the aging of the population, the best prospects for insurance salespeople should be in retirement insurance. Deregulation and stiff competition are forcing small insurance companies to merge with large ones, thus reducing employment opportunities for insurance salespeople and agents. On the other hand, the deregulation of the financial industry means that insurance companies can now sell trust services and financial products, and this could create new job openings for these workers. Customers' need for information about the range of new insurance products, of which life insurance is only one among many, is tending to reorient the role of insurance agents toward that of general financial consultant. This new orientation in their duties may brighten the employment outlook for this occupational group. Knowledge of developments on the financial services market is an asset. At the same time,

4. LABOUR MARKET TRENDS (cont'd)

jobs may open up for those who specialize and acquire a knowledge of everything related to insurance. The use of computer technology is widespread in the insurance field and has had an impact on the tasks of insurance agents. A number of functions can now be carried out by means of computers, such as registering clients, policies and amendments, producing claims, bills and commission claims, cost analyses, etc. Enhanced performance on the part of insurance salespersons due to the use of computer technology and continued rationalization should be sufficient to spark demand for services related to this field. In addition, deregulation of financial intermediaries, competition between insurance brokers and insurance salespersons should increase since brokers now offer life insurance policies in addition to general insurance policies. This situation could tighten the labour market for insurance salespersons and agents even more.

5. EDUCATION AND SKILLS

Secondary school graduation is usually required. A community college diploma in business administration, insurance option, is an asset. Candidates wishing to sell insurance must be at least 18 years of age and have a special permit to work as insurance salespersons.

6. SALARY

According to the 1986 census, the average salary of insurance brokers and agents working full time was $28,551.

REAL ESTATE SALESMEN 5172

Examples: Apartment Rental Agent, Real Estate Appraiser, Real Estate Salesperson, Real Estate Agent

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
10,280	10,685	405	3,135	3,540

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
270	0	0	110	380

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	39.1	41.0	Under 25 years	7.0	-	Full-time	92.9	91.6
Males	60.9	59.0	Over 54 years	16.2	-	Part-time	7.1	8.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance and Real Estate (100)
- Insurance and Real Estate Agencies (91)
- Real Estate Operators (9)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Job openings will be created mainly through attrition of the present labour force. Employment opportunities for real estate agents depend on the condition of the housing market, interest rates, population distribution and economic growth. Technological advances such as the computerization of brokerage firms and the use of audiovisual techniques and electronic media make the tasks of real estate brokers easier. The use of database software covering all aspects related to purchasing a house, a commercial or industrial building or a piece of land allows brokers to quickly consult files, update them from a distance and use accounting systems. The possibility of consulting this database at the client's, using a microcomputer, presents an advantage to real estate agents who are familiar with these software packages. The deregulation of the financial sector is conducive to the formation of multidisciplinary teams providing a range of services. The merging of different types of brokers' offices such as real estate brokers, insurance brokers and securities brokers may continue gradually, resulting in financial supermarkets. The demand for real estate brokers could be adversely affected.

5. EDUCATION AND SKILLS

Secondary school graduation is usually required for entry to these occupations. For real estate appraisers, a university degree in business administration, with a specialization in real estate management (appraisal), is required. Membership in the Quebec Association of Chartered Appraisers is mandatory only for those who wish to use the title. For real estate agents, the provincial Real Estate Association now requires new candidates to complete the course organized by the Quebec Real Estate Association. New agents must have completed a minimum of 120 hours of classes and brokers, 360 hours of classes if they wish to obtain authorization to practise. A license from the Real Estate Brokerage Division of the Quebec Department of Justice must be obtained.

6. SALARY

According to the 1986 census, the average salary of real estate agents working full time was $30,861.

SALESMEN AND TRADERS, SECURITIES 5173

Examples: Bond Dealer, Floor Trader, Securities Trader, Foreign Exchange Dealer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,740	2,920	180	1,170	1,350

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
40	0	0	595	635

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	23.1	23.7	Under 25 years	8.7	-	Full-time	92.1	93.5
Males	76.9	76.3	Over 54 years	19.9	-	Part-time	7.9	6.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Finance, Insurance and Real Estate (93)
- Banks (15)
- Other Credit Agencies (3)
- Security Brokers (48)
- Investment companies (9)
- Insurance Carriers (4)
- Insurance and Real Estate Agencies (13)
- Real Estate Operators (1)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Most job openings will result from the need to replace current employees. Since economic conditions affect investment spending and commercial activity, they also affect employment opportunities for those who deal in securities in the financial, insurance and real estate sectors. The brokerage industry is in full transition. With deregulation of both the financial services industry and the activities of financial institutions, competition between brokerage firms has increased. On the one hand, we have seen the appearance of small specialized firms offering specialized services and new products and, on the other hand, the consolidation of "mega-firms". The demand for securities brokers could be stimulated by increased activity on the part of Canadian banks on the international markets and the expanded range of financial services offered. The growth of discount brokerage services where clients pay reduced commission rates is competing with traditional brokerage services.

4. LABOUR MARKET TRENDS (cont'd)

With the increasing demand for SSPs, RRSPs and other financial vehicles, the need for financial consultants is growing and could create openings for securities brokers who can practise as such. New technologies have had an impact on the tasks of brokers. Computer systems that transmit information on the number of transactions per company, the most recent transactions, rates, etc., facilitate and speed up the work of these brokers. Knowledge of these systems is an asset for brokers. Good interpersonal skills are also in demand. Brokers generally have an active social life since they must take part in groups and associations where they recruit their clientele.

5. EDUCATION AND SKILLS

The qualifications required for these occupations vary from specialty to specialty, but candidates must have at least completed secondary school. Though no university course yet exists in this area, a business administration course, finance option, is an asset for securities brokers. Successful completion of a correspondence course in securities trading in Canada given by the Canadian Securities Institute is necessary in order to work as a securities broker. To become a fellow of the Institute, candidates must have completed an advanced course on investment financing in Canada. Independent brokers are not required to take the examination set by the Investment Dealers Association of Canada. Completion of a two-to-three week Canadian mutual fund course is required for selling mutual funds; those who wish to sell other types of securities must complete a three-to-six month Canadian securities course. Registration with the provincial register kept by the Quebec Securities Commission is mandatory.

6. SALARY

According to the 1986 census, the average salary of securities brokers working full time was $45,218. Some brokers receive a basic salary plus commission, while others work solely on a commission basis.

ADVERTISING SALESMEN 5174

Examples: Advertising Salesperson, Radio and Television Salesperson, Publicity Agent

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			NEW JOB OPENINGS	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,980	2,550	570	545	1,115

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
60	0	0	0	60

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	37.7	41.6	Under 25 years	17.2	-	Full-time	92.9	93.2
Males	62.3	58.4	Over 54 years	7.8	-	Part-time	7.1	6.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (36)
- Advertising Services (33)
- Management Cons. Off. (2)
- Misc. Services (1)

Printing, Publishing Ind.(29)
- Commercial Printing (4)
- Publishing Only (12)
- Publishing and Printing (13)

Communication (13)
- Radio and Tel. Broadcasting (13)

4. LABOUR MARKET TRENDS

Above-average employment is forecast. In an increasingly competitive economy, the need intensifies for companies to promote and advertise their products. This may increase employment prospects for these occupations. The best job opportunities are found in the smaller specialized firms or in the large integrated agencies. The trend toward advertising in a number of different media should grow. In magazines, advertising is increasingly taking the form of inserts and advertisements of several pages that fold out. Stagnation in the advertising budgets of the large clients has forced advertising agencies to shift toward public relations, direct marketing and promotion budgets. In addition to the traditional services, such as customer service and the creation and placement of advertising in the media, integrated agencies are starting to offer services such as research, promotion, direct adverting, graphic design and public relations. These new orientations may stimulate the creation of jobs for advertising agents.

5. EDUCATION AND SKILLS

Secondary school graduation and sales experience are generally required. However, many employers are looking for candidates with a community college diploma or university degree in marketing or business administration. Good communication skills are in demand.

6. SALARY

According to the 1986 census, the average salary of advertising agents working full time was $29,739.

FIREFIGHTERS 6111

Examples: Crash Firefighter, Firefighter, Fire Inspector, Fire Truck Driver

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,985	5,650	665	665	1,330

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
215	1,070	5	0	1,290

OTHER IMPORTANT REQUIREMENTS

The demand for firefighters depends on public spending budgets and the size of the population served.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.6	1.3	Under 25 years	-	-	Full-time	-	98.6
Males	99.4	98.7	Over 54 years	-	-	Part-time	-	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (92)
- Defence Services (2)
- Other Federal Service (1)
- Provincial Service (2)
- Local Gov't Service (87)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly below the average, based on the outlook in the public administration sector. Employment in this occupational group is relatively unaffected by market fluctuations, but is more dependent on the size of the population served and public spending. While technological changes have improved firefighters' performance, they have not had any significant effect on employment. Firefighters' equipment has improved considerably and firefighting techniques have been refined. In addition to the role of "firefighter" as such, the role of these workers is expanding to include preventive work. Public education, preventive inspections and the development of simulated intervention plans are becoming an increasing part of firefighters' work. Also, their intervention role is expanding, especially in situations where public security is endangered, such as ecological disasters, breakdowns of electric installations, etc.

5. EDUCATION AND SKILLS

Entry to this occupation requires a secondary school diploma in fire prevention with a specialization in firefighting. In the Montreal region, Saint-Maxime secondary school offers courses in firefighting. Firefighters may undergo on-the-job training throughout their careers. In some cases, firefighting experience may lead to a permanent firefighter position.

6. SALARY

According to the 1986 census, the average salary of firefighters working full time was $36,296.

POLICE OFFICERS AND DETECTIVES, GOVERNMENT 6112

Examples: Constable, Traffic Officer, Highway Patrol Officer, Fingerprint Technician, Police Officer, Detective

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,020	17,815	2,795	1,580	4,375

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
295	65	1,280	625	2,265

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.3	4.4	Under 25 years	8.6	-	Full-time	99.2	98.9
Males	97.7	95.6	Over 54 years	4.8	-	Part-time	0.8	1.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Gov't Service (100)
- Other Federal Service (9)
- Provincial Service (32)
- Local Gov't Service (59)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. Employment in this occupational group is sensitive to budgetary fluctuations which have an adverse effect on the allocations made by governments to police forces. Entry to police officers' jobs is difficult and sometimes involves a long wait. Police officers may work in a range of areas such as patrols, criminal investigations, detention, legal identity, prevention, youth protection and public relations. Good interpersonal skills are sought after. Candidates for jobs in this occupational group must be available to work three out of five weekends, both day and night. Private detective agencies may offer job openings for police officers. New specialties are opening up in which investigators must be capable of doing sophisticated accounting, working with computers or identifying industrial spies.

According to the Police Act, in order to become police officers candidates must be Canadian citizens, have no criminal record, have a driver's license, have completed Secondary V and be at least 18 years of age. Also, women must be at least 5" 3" tall and men, 5" 7" tall.

5. EDUCATION AND SKILLS

Secondary school graduation or, preferably, a community college diploma in police technology is required. Completion of a training course at the Nicolet Police Institute is compulsory for employment in a municipal police force or the Quebec Provincial Police. Only candidates referred by employers are accepted at the Institute. Municipalities with a high population density require police job applicants to reside in the municipality. Bilingualism is a major asset. To go from one grade to the next, candidates must pass examinations, an interview and have the necessary leadership qualities. Good interpersonal skills are in demand. To become an investigator, candidates must have five years' experience in the police force and pass a series of courses and aptitude tests.

6. SALARY

According to the 1986 census, the average salary of police officers and official police detectives working full time was $36,053.

GUARDS AND WATCHMEN 6115

Examples: Armoured Car Guard, Night Watchman, Prison Guard, School Crossing Guard

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
25,310	25,700	390	11,110	11,500

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,745	305	320	230	3,600

OTHER IMPORTANT REQUIREMENTS

Many jobs are part-time.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	18.8	24.4	Under 25 years	17.3	-	Full-time	90.5	86.3
Males	81.2	75.6	Over 54 years	28.8	-	Part-time	9.5	13.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Business Services (36)
- Employment Agencies (2)
- Security Services (34)

Gov't Service (20)
- Other Federal Service (6)
- Provincial Service (6)
- Local Gov't Service (8)

Education (15)
- Elem. and Sec. Schools (15)

Health and Social Services (6)
- Hospitals (3)
- Related Health Care Inst. (3)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Job openings will be created mainly through attrition. The large size of this occupational group means that the total number of job openings will remain high, i.e. nearly 11,500 jobs during the forecast period. Many jobs are part-time. Overtime may be required and employment may be on an on-call basis (day, night, weekends). Such technological advances as electronic surveillance systems and video surveillance are making the work of security guards easier.

5. EDUCATION AND SKILLS

Although no specific educational qualifications are required for entry to this occupation, a high-school diploma is desirable. Depending on the job, candidates may be required to have a valid driver's license, no criminal record and undergo a medical examination. Guards must be licensed by the Quebec Provincial Police and be at least 18 years of age. Uniforms must be worn. A community college diploma in correctional technology is an asset for criminology technicians and correctional officers.

6. SALARY

According to the 1986 census, the average salary of security guards working full time was $20,210.

SUPERVISORS: FOOD AND BEVERAGE PREPARATION AND RELATED SERVICE OCCUPATIONS

6120

Examples: Maitre d'hôtel, Caterer, Cooking Supervisor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,880	10,570	690	2,585	3,275

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,185	240	135	120	1,680

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	28.2	35.3	Under 25 years	10.9	-	Full-time	93.2	92.7
Males	71.8	64.7	Over 54 years	12.3	-	Part-time	7.8	7.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Accommodation and Food Services (88)
- Hotels and Motels (6)
- Restaurants (82)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Most job openings will be created through attrition of the present labour force and the need to replace those leaving their jobs. New technologies are changing the tasks of supervisors in this occupational group. New cash registers that automatically regulate the prices of menus and record all sales reduce the amount of time supervisors must devote to budgeting and sales and to monitoring waiters/waitresses. The use of computer software makes it possible to better manage purchases, stocks, control and billing. The greater spread of these technologies may have an adverse effect on the demand for supervisors. However, knowledge of computer software is an asset for those who wish to enter supervisory positions. The growing popularity of fast-food restaurants, which could become even more automated, the increased use of fast-frozen or vacuum-packed pre-prepared menus even by fine restaurants, certain hospitals and airline catering companies could slow down the employment growth for these supervisors. The growing population, the increase in disposable income and the greater amount of time devoted to recreation could mean improved job opportunities for caterers, given that consumers spend less time preparing meals. As the industry matures and adjusts to

4. LABOUR MARKET TRENDS (cont'd)

technological change, this group's responsibilities must go beyond culinary art to acquiring managerial skills. Advancement opportunities within this group are better for waiters/waitresses who serve in the larger restaurants.

5. EDUCATION AND SKILLS

It is possible for candidates to enter this occupational group without any particular school training if they have good work experience. However, it is becoming increasingly important to acquire an education. Thus, for food service management workers and restaurant director-managers, a community college diploma, food services management technology option, is preferable. A high-school diploma in restaurant services is an asset for those who wish to enter food service supervisory or banquet captain positions. In general, managerial and supervisory skills are in demand.

6. SALARY

According to the 1986 census, the average salary of workers specialized in food and beverage preparation and related services working full time was $19,837.

CHEFS AND COOKS 6121

Examples: First Cook, Grill Chef, Logging Camp Cook, Short-order Cook, Pastry Cook

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
54,005	70,400	16,395	13,745	30,140

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
8,220	4,825	435	0	13,480

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	47.3	45.6	Under 25 years	37.4	-	Full-time	84.0	81.1
Males	52.7	54.4	Over 54 years	9.2	-	Part-time	16.0	18.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Accommodation and Food Serv. (68)
- Hotels and Motels (5)
- Restaurants (63)

Health and Social Services (14)
- Hospitals (7)
- Related Health Care Inst. (7)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast, due to the expected expansion of the hospitality sector. Though certain factors tend to slow down the demand for restaurant services, there are others that favour their growth. The decline in demographic growth and the aging population could have an adverse effect on the demand for restaurant services, and consequently for chefs and cooks. At present, elderly people generally do not frequent restaurants as much as young people do, particularly fast-food restaurants. Nonetheless, these negative effects tend to be offset by several other factors. Factors such as smaller families, a greater number of single-person households, higher incomes and the increasing presence of women in the labour force mean a growing demand for restaurant services and, consequently, an increased demand for chefs and cooks. Restaurants are tending to diversify. The overall increase in level of education and new concerns on the part of the public about a more healthful way of eating should spur the appearance of more specialized restaurants, as opposed to standard restaurants, and restaurants with a more dietetic approach to food, particularly for elderly consumers. The growing popularity of specialized restaurants with a unique approach and a warm atmosphere where client hospitality and personalized service are the focal points may create good employment opportunities for chefs and cooks interested in this area. The demand for experienced cooks is constant. Chefs must be familiar with such new technologies as microwave cooking.

4. LABOUR MARKET TRENDS (cont'd)

It is unlikely that these technological changes will affect the total number of jobs for this occupational group. The continual spread of fast-food services may serve to increase the demand for cooks in this area. However, if the automation of this type of food services and the use of fast-frozen or vacuum packed pre-prepared meals in all types of restaurants continues, the demand for cooks may give way to the demand for cooking technicians whose tasks would centre on meal distribution.

5. EDUCATION AND SKILLS

A large number of chefs and cooks started their careers as dishwashers or waiters/waitresses and it is through acquired experience and the job opportunities they encountered that they obtained their present positions. Although this path is still possible, entry to this occupation increasingly requires a secondary vocational course, professional cooking option, or a two-year professional cooking program offered by the Quebec Tourism and Hotel Institute. For pastry cooks, a secondary school diploma, pastry option is an asset.

6. SALARY

According to the 1986 census, the average salary of chefs and cooks working full time was $15,092.

WAITERS, HOSTESSES, STEWARTS, FOOD AND BEVERAGE 6125

Examples: Waiter/Waitress, Counter Attendant, Caterer Helper

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
55,965	77,145	21,180	13,310	34,490

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
6,775	3,645	445	1,040	11,905

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	82.0	79.8	Under 25 years	45.1	-	Full-time	73.9	79.6
Males	18.0	20.2	Over 54 years	3.5	-	Part-time	26.1	20.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Accommodation and Food Services (90)
- Hotels and Motels (9)
- Restaurants (81)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, given the forecast growth in the hospitality sector. The personnel turnover rate in this group is high compared to other occupations and could give rise to additional job openings. New consumer habits such as eating meals outside the home and the wide range of restaurants could change the skills required for certain categories of waiters/waitresses. The growth outlook for fast-food services is good, and could have a positive impact on employment opportunities for waiters/waitresses in this area. However, new technologies are changing the duties of these workers, particularly in fast-food chain restaurants. With an electronic keyboard and a screen, waiters/waitresses can place an order directly from the restaurant to the kitchen by using pre-established codes, and they can also be informed as soon as the order is ready. Technological advances facilitate and speed up the work of waiters/waitresses in this type of restaurant, especially by reducing the amount of moving around they have to do. Fast-food restaurants can become even more automated, to the point of complete automation, which could reduce the number of waiters/waitresses required in these establishments. In independent restaurants, traditional equipment is generally still being used. Also, growing public demand for more specialized restaurants with a warm atmosphere and personalized service may stimulate the demand for waiters/waitresses working in this area. Qualities such as interpersonal skills, courtesy and good personal appearance are assets.

4. LABOUR MARKET TRENDS (cont'd)

Overall, there is a certain amount of seasonal fluctuation in this occupational group and part-time work is common. Bilingualism is an asset.

5. EDUCATION AND SKILLS

No particular schooling is required. Large fast-food chains often provide their personnel with on-the-job training, usually by means of a video. However, completion of a secondary vocational course in waiter/waitress training is an asset. Good interpersonal skills are sought after by employers.

6. SALARY

According to the 1986 census, the average salary of those specialised in food and beverage serving occupations working full time was $10,427.

FUNERAL DIRECTORS, EMBALMERS AND RELATED OCCUPATIONS 6141

Examples: Mortician, Embalmer, Crematorium Attendant, Thanatologist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
980	1,045	65	445	510

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
25	-	-	-	25

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.9	16.4	Under 25 years	8.3	-	Full-time	89.3	88.7
Males	90.1	83.6	Over 54 years	23.5	-	Part-time	10.7	11.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Personal Services (100)
- Funeral Services (100)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Most of the job openings on the labour market will be due to attrition. Employment in this occupational group is concentrated in the personal services sector and is not vulnerable to economic fluctuations since it largely depends on demographic factors. While the aging of the population will mean a steady demand for the services of this group, the number of job openings should remain relatively stable. Working hours are very irregular. Embalmers are often required to work on-call, during the day or night, which means that they must be very flexible.

5. EDUCATION AND SKILLS

A community college diploma in thanatology is required. Membership in the Order of Thanatologists of Quebec is mandatory for those wishing to practise in the province. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of morticians, embalmers and those in related occupations working full time was $24,022.

BARBERS, HAIRDRESSERS AND RELATED OCCUPATIONS 6143

Examples: Hair Stylist, Cosmetologist, Manicurist, Make-up Artist, Beauty Salon Proprietor

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
31,860	36,270	4,415	7,570	11,980

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,615	15,805	15	0	17,435

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	74.2	80.6	Under 25 years	36.6	-	Full-time	82.8	85.6
Males	25.8	19.4	Over 54 years	5.8	-	Part-time	17.2	14.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Personal Services (94)
- Barber and Beauty Shops (90)
- Misc. Personal Services (4)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast, and the labour supply is expected to exceed the demand. Deregulation of the hairstyling sector has brought about keen competition between companies and the appearance of many hairstyling salons. Deregulation has also given rise to the "desexualization" of salons, so that both men and women can have their hair done in the same salon and by the same hair stylist. Personal qualities such as creativity are very much in demand. Administrative skills in supervision, hiring and training are assets for those who wish to become beauty salon proprietors or managers. Most job openings are available in medium-sized and large cities.

5. EDUCATION AND SKILLS

Completion of a secondary vocational course in men's or women's hairdressing or beauty care or a training course in a recognized private school or in a beauty salon under the supervision of a qualified specialist is required. Electrolysis training is necessary for beauticians.

6. SALARY

According to the 1986 census, the average salary of hairdressers and related workers working full time was $12,973.

HOSTESSES, STEWARDS, EXCEPT FOOD AND BEVERAGE 6145

Examples: Flight Attendant, Airline Steward/Stewardess, Recreation Manager, Social Director

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
925	1 215	290	240	530

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
120	-	-	-	120

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	66.5	64.1	Under 25 years	-	-	Full-time	-	96.7
Males	33.5	35.9	Over 54 years	-	-	Part-time	-	3.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (94)
- Air Transport (87)
- Services Incidental to Air Transport (4)
- Railway Transport (3)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Some 530 jobs should open up during the forecast period. The employment outlook could improve for airline hostesses following the deregulation of the transportation sector. Technological changes affecting the occupations of airline hostess and maitre d'hôtel are few and have not had any repercussions on employment. Seasonal fluctuations, particularly in the summer months, give rise to greater job opportunities.

5. EDUCATION AND SKILLS

The minimum entry requirement for these occupations is a secondary school diploma. Preference is given to those who have completed postsecondary studies and who have several years of experience. Airline companies provide flight attendants who have completed Secondary V with a one-month on-the-job training period. Candidates must be at least 18 years old and be 1 m 57 cm (5'2") tall. Good communication skills in both French and English are essential for companies providing international services. Candidates must undergo a medical examination.

6. SALARY

According to the 1986 census, the average salary of hostesses and those in related occupations not specialized in food and beverages who were employed full time was $26,759.

JANITORS, CHARWORKERS AND CLEANERS 6191

Examples: Janitor, Chimney Sweep, Floor Cleaner, Washroom Attendant, Window Cleaner, Charworker

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
63,960	73,235	9,280	23,470	32,750

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
6,550	1,200	75	965	8,790

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	31.6	32.0	Under 25 years	25.2	-	Full-time	85.8	81.4
Males	68.4	68.0	Over 54 years	20.8	-	Part-time	14.2	18.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Health and Social Services (19)
- Hospitals (13)
- Related Health Care Inst. (6)

Food and Accommodation Ind. (7)
- Hotels and Motels (3)
- Restaurants (4)

Misc. Services (19)
- Services to Buildings (19)

Finance, Ins. & Real Estate (6)
- Real Estate Operators (6)

Education (14)
- Elem. and Sec. Schools (11)
- Postsecondary Schools (1)
- Universities and Colleges (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. Job openings will be created mainly through attrition. The number of cleaning companies could increase under the combined impact of labour market trends and consumer needs. The massive entry of women into the labour force, the increase in household incomes, the trend toward keeping elderly and disabled persons at home could spur the demand for maintenance services, and thus for janitors and domestic workers and cleaners. In general, technological changes have made the tasks of janitors easier, but have had no impact on employment as such. Because of the diversity of janitors' tasks, a knowledge of electricity, plumbing and carpentry and other technical fields is an asset.

5. EDUCATION AND SKILLS

No specific qualifications are needed. Most workers receive their training on the job.

6. SALARY

According to the 1986 census, the average salary of janitors and those employed in domestic and cleaning occupations who were working full time was $17,722.

OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK: OTHER SERVICES

6198

Examples: Auto Washer, Checkroom Attendant, Dishwasher, Door Tender, Laundry Labourer, Shoe Shiner

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
10,660	11,050	390	1,810	2,200

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,460	1,000	75	0	2,535

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	21.1	20.7	Under 25 years	62.6	-	Full-time	76.2	71.4
Males	78.9	79.3	Over 54 years	7.8	-	Part-time	23.8	28.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Accommodation and Food Serv. (56)
- Hotels and Motels (10)
- Restaurants (46)

Retail Service (13)
- Gasoline Service Stations (7)
- Motor Vehicle Dealers (5)
- Motor Vehicle Repair Shops (1)

Health and Social Services (10)
- Hospitals (7)
- Related Health Care Inst. (3)

4. LABOUR MARKET TRENDS

Employment in these occupations should remain stable. Most job openings will be created through attrition. The labour supply may exceed the demand.

5. EDUCATION AND SKILLS

No specific qualifications are necessary. Door tenders are provided with a brief training period on the job. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of labourers in these services working full time was $14,568.

FARMERS (PLUS 7113 - LIVESTOCK FARMERS, 7115 - CROP FARMERS, AND 7119 - FARMERS, NOT ELSEWHERE CLASSIFIED) 7111

Examples: Farmer, Fruit Farmer, Tomato Farmer, Poultry Farmer, Maple Syrup Maker, Nursery Farmer, Flower Grower

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
17,925	14,125	-3,800	6,835	3,035

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
500	-	20	-	520

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	-	Under 25 years	-	-	Full-time	-	-
Males	-	-	Over 54 years	-	-	Part-time	-	-

3. MAIN SECTOR PROVIDING EMPLOYMENT (1986 %)

Agriculture (100)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to decline. New job openings will be created mainly through attrition of the present labour force. Over the 1980s, the trend toward the expansion of farms and the reduction in their number translated into a decrease in the number of farmers. This trend should continue during the forecast period. The purchase of a farm requires a large investment. A strong dependence on debt financing makes the sector vulnerable to interest rate fluctuations.

Workers in this occupational group are either owners or tenants of a farm. The most common way for young farmers to enter this occupation is by taking over the family farm at an early age or to form associations with other family members. However, it is becoming increasingly difficult to recruit new farmers. One of the characteristics of the agricultural sector is the rapid growth in the number of salaried workers in relation to farm producers. This trend should continue together with the remuneration of offspring who work on the farm, the more frequent grouping of farms into companies or corporations and the change in the status wives who help to run the farm. The growing reliance on paid labour is linked to the increasingly limited growth and development of capital. As farms become larger, it is more and more difficult for farmers to adjust well to the departure of

4. LABOUR MARKET TRENDS (cont'd)

workers. It is difficult to compensate for the departure of young family members from farm life by downsizing production. Remuneration of children's work may become a strong incentive for this, or their replacement by other salaried workers may prove necessary.

Farms are becoming increasingly specialized and require a qualified labour force with a knowledge of farming activities. For aspiring farmers, basic training in agriculture is essential as well as a good knowledge of business administration and computer systems related to the field of agriculture. New production technologies involving equipment used in the fields and livestock feeding systems are related to the use of electronic control systems. Because of the growing mechanization of agriculture, farmers must increasingly be able to master the operation and maintenance of farm machinery. With developments in genetics applied to animal breeding (artificial insemination, frozen embryos, etc.), significant changes are taking place in reproduction techniques and in the tasks of livestock farmers. Knowledge of farm management computer systems, particularly in accounting and financial planning, is becoming increasingly necessary for farmers.

For nursery farmers, opportunities are opening up due to the government's intensive reforestation policies, particularly for nursery sub-contractors whose activities are focused on forest operations. The appearance of plants in containers replacing bare-root plants has had an impact on the tasks and handling processes in nurseries.

5. EDUCATION AND SKILLS

There is no particular educational requirement for entry to this occupational group. Farm experience and a good knowledge of farm management is an asset. Completion of the secondary vocational course in agricultural technology, animal production option, is generally required for livestock farmers. For farmers who raise small animals, a community college diploma in natural sciences technology, with a specialization in animal health may be useful. For all farmers a community college or university training in one of the farming specialties is a definite advantage.

6. SALARY

According to the 1986 census, the average salary of farmers working full time was $19,875.

FARM MANAGEMENT OCCUPATIONS 7131

Examples: Hatchery Manager, Landscaping Manager, Farm Manager

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1. LABOUR MARKET FROM 1989 TO 2000

JOBS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
7,795	11,925	4,130	2,605	- 6,735

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
40	-	-	-	40

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	19.1	Under 25 years	-	-	Full-time	-	91.4
Males	-	80.9	Over 54 years	-	-	Part-time	-	8.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Not available.

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. The trend toward larger farms, diversified production and the grouping into companies or corporations of an increasing number of farms may boost the demand for farm managers. In general, the larger the farm, the more important and complex the tasks of the manager. Technological changes in the agricultural sector have had an impact on production and machinery. New production technologies are mainly linked to the use of electronic systems on the equipment used in the fields and in livestock feeding systems as well as in genetic development (frozen embryos, etc.). Knowledge of new farm machinery as well as new growing techniques are major assets. The computerization of farm management, particularly accounting and financial planning, is quite widespread. Candidates with a basic knowledge of accounting, bookkeeping and farm management computer systems will have a competitive edge.

4. LABOUR MARKET TRENDS (cont'd)

Job prospects are good for managers with basic training in agriculture and a good knowledge of business administration, marketing and sales. Skills in personnel management and the ability to communicate are major assets.

5. EDUCATION AND SKILLS

Although there is no educational requirement for entry to this occupational group, a community college or university education is an asset. Candidates must have training in agriculture or several years' experience on a farm.

6. SALARY

According to the 1986 census, the average salary of farm managers working full time was $14,886.

NURSERY AND RELATED WORKERS 7195

Examples: Park Worker, Landscape Gardener, Nursery Worker, Peat Moss Layer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
15,245	20,070	4,825	4,040	8,865

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,000	480	35	1,915	4,430

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	7.5	11.7	Under 25 years	42.6	-	Full-time	100.0	88.5
Males	92.5	88.3	over 54 years	12.1	-	Part-time	-	11.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Ind. (31)
- Special-trade Contractors (31)

Gov't Service (17)
- Other Federal Service (2)
- Provincial Service (2)
- Local Gov't Service (13)

Agriculture (13)
- Experimental Farms (11)
- Farm Services (2)

Amusement and Recreation (8)
- Golf Clubs (6)
- Misc. Services (2)

Forestry (7)
- Forestry Services (7)

Personal Services (5)
- Private Households (3)
- Misc. Personal Serv. (2)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. Growing consumer demand for indoor plants and landscaping should stimulate job prospects for nursery workers. Quebec's new forest development policy, which stresses reforestation and forest management, should create considerable demand for nursery workers. Under the policy, harvesting would be limited to actual forest capacity, meaning that for every tree cut down another would have to be planted. Technological advances have had very little impact on employment for this group.

5. EDUCATION AND SKILLS

While there is no educational requirement for this occupational group, employers often prefer candidates who have completed the ornamental horticulture option of the secondary vocational course in agricultural technology. For some jobs, a community college diploma in ornamental horticulture may be an asset.

6. SALARY

According to the 1986 census, the average salary of nursery and related workers who were employed full time was $19,730.

FARM MACHINERY OPERATORS 7197

Examples: Farm Machinery Operator, Field Crop Sprayer Operator, Regular Farm Machinery Operator and Contractual Farm Machinery Operator, n.e.c.

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
710	935	225	225	450

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
45	-	-	-	45

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	-	Under 25 years	-	-	Full-time	-	-
Males	-	-	Over 54 years	-	-	Part-time	-	-

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Agriculture (70)

Agricultural Services Ind. (6)
- Serv. Related to Livestock Breeding and Animal Specialties (6)

Indust., Fishing and Trapping (3)
- Specialized Contractors (3)
- On-site Work (3)

4. LABOUR MARKET TRENDS

Above-average growth is forecast. Larger-sized farms, increased mechanization and greater production specialization are factors that will boost employment in this occupational group. The trend toward hiring salaried workers, such as farm machinery operators who often make up for the lack of succession, should continue. New production technologies involving field equipment are having a positive impact on employment prospects for these workers. In addition to skills in mechanics, a knowledge of electronics could become an asset due to the routine maintenance and minor repairs that operators must carry out on their machinery.

Work in this occupational group is mainly seasonal with peak periods in summer and autumn. Operators may be required to work long hours in order to take advantage of daylight.

5. EDUCATION AND SKILLS

Though no specific qualifications are required, a one- to six-month on-the-job training period is necessary. Training in farm machinery mechanics is an asset. An appropriate driving permit is required. Secondary school studies and post-secondary courses in agriculture or horticulture are also an asset.

6. SALARY

According to the 1986 census, the average salary of farm machinery operators working full time was $20,203. These workers may be paid either on a salary or lump sum basis.

CAPTAINS AND OTHER OFFICERS, FISHING VESSELS 7311

Examples: Trawler Captain, Boatswain, Mate

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
145	230	85	85	170

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
10	-	-	-	10

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.1	1.1	Under 25 years	18.1	-	Full-time	-	100.0
Males	90.5	98.9	Over 54 years	9.1	-	Part-time	-	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Hunting and Fishing (88)
- Fishing (88)

Food and Beverages Ind. (8)
- Fish Products Ind. (8)

4. LABOUR MARKET TRENDS

Above-average employment growth is forecast. In our opinion, the employment level given above underestimates the real number of jobs in these occupations, since Quebec reportedly had in excess of 3,000 fishing vessels in 1982. Opportunities in this occupational group are largely seasonal since fishing is done mainly in spring and summer. Most captains of fishing vessels are relatively small- scale operators and may employ as many as seven helpers. Large sea-going trawlers account for fewer than one per cent of all fishing vessels, but a trend toward more factory freezer trawlers used in offshore activity may limit the opportunities for vessels captains. These developments may also change the structure of the industry. Fishing operations may become more integrated as fish processing is carried out offshore. Fishing activity and therefore employment opportunities are dependent upon a number of factors. The price of fish, regulation of the fish supply by the federal government, territorial fishing rights, quotas and the value of the Canadian dollar vis-à-vis European and U.S. currencies have had a marked effect on job opportunities.

CAPTAINS AND OTHER OFFICERS, FISHING VESSELS 7311

5. EDUCATION AND SKILLS

Completion of the secondary vocational course in commercial fishing, or a community college diploma in fishing techniques, harvesting and management option, is usually required. Candidates must be at least 19 years of age and be certified by vessel type and the waters they wish to sail in. Certification may be obtained after 5 to 8 years of on-the-job experience. Knowledge of how to use a compass as well as navigation maps and charts is essential

6. SALARY

According to the 1986 census, owners and mates of fishing vessels working full time was $23,975.

TIMBER CUTTING AND RELATED OCCUPATIONS 7513

Examples: Tree Harvester Operator, Chain-saw Operator, Timber Marker, Lumberjack, Busher, Faller

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
7,080	5,020	-2,060	780	-1,280

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
3,680	105	-	-	3,785

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	0.0	Under 25 years	-	-	Full-time	-	100.0
Males	-	100.0	Over 54 years	-	-	Part-time	-	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Forestry (79)
- Logging (76)
- Forestry Services (3)

Wood Industries (9)
- Sawmills, Planing Mills and Shingle Mills (9)

Paper and Allied Ind. (2)
- Pulp and Paper Mills (2)

4. LABOUR MARKET TRENDS

This occupational group is expected to lose employment. Jobs created through attrition of the present labour force will constitute the only openings and will not be sufficient to offset the anticipated loss of employment. New production processes will have an impact on the demand for lumberjacks. With the widespread implementation of "whole tree" cutting, consisting in bringing down the tree without removing its branches, sawing activities should be reduced somewhat. Consequently, the demand for traditional lumberjacks is expected to drop dramatically, to the benefit of tree feller and feller buncher operators. Operators increasingly own the equipment they use. A knowledge of mechanics for basic maintenance of these machines is an asset.

5. EDUCATION AND SKILLS

There is no specific educational requirement. On-the-job training is often required. However, a secondary course in the operation of heavy forest machinery, hauling machines, jammers and sawing machines option, is an asset.

6. SALARY

According to the 1986 census, the average salary of lumberjacks working full time was $21,061. Forestry workers are often paid on a lump sum basis.

LOG INSPECTING, GRADING, SCALING AND RELATED OCCUPATIONS

7516

Examples: Log Grader, Wood Scaler, Timber Cruiser, Pulpwood Scaler, Log Culler

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
480	365	-115	90	-25

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
175	-	-	-	175

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.1	8.5	Under 25 years	28.5	-	Full-time	97.3	100.0
Males	97.9	91.5	Over 54 years	9.7	-	Part-time	2.7	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Forestry (61)
- Logging (49)
- Forestry Services (12)

Gov't Service (5)
- Provincial Service (5)

Paper and Allied Industries (16)
- Pulp and Paper Mills (16)

Wood Industries (9)
- Sawmills (9)

4. LABOUR MARKET TRENDS

This occupational group is expected to undergo a decrease in the labour supply. Available jobs will be created through attrition of the present labour force. This group of occupations is very sensitive to the economic climate. Increased competition on outside markets, for both wood and paper, and increased foreign protectionism have slowed down employment growth in this group. Technological changes have made certain occupations obsolete; for example, the automation of scaling operations has eliminated the job of "scaler's helper".

5. EDUCATION AND SKILLS

A community college diploma in forest technology, forest management option, is an asset for timber cruisers. For log scalers and log cullers, a secondary vocational diploma in scaling and grading is an asset.

6. SALARY

According to the 1986 census, the average salary of log inspectors, log scalers, log cullers and related workers who were employed full time was $27,218.

OCCUPATIONS IN LABOURING AND OTHER ELEMENTAL WORK, FORESTRY AND LOGGING

7518

Examples: Log Loader, See-Cone Picker, Tree Planter, Sprayer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,390	6,070	1,680	1,050	2,730

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
250	105	-	-	355

OTHER IMPORTANT REQUIREMENTS

New logging processes affect the demand for this occupational group.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	0.0	Under 25 years	-	-	Full-time	-	100.0
Males	-	100.0	Over 54 years	-	-	Part-time	-	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Forestry (76)
- Logging (30)
- Forestry Services (46)

Wood Industries (3)
- Sawmills, Planing Mills and Shingle Mills (3)

Gov't Service (6)
- Provincial Service (4)
- Local Gov't Service (2)

Paper and Allied Industries (2)
- Pulp and Paper Mills (2)

Experimental Farms (6)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. The Quebec government's new forest development policy under which each tree that is cut down must be replaced by another, should boost employment for this occupational group, particularly for tree planters and seed-cone pickers. Seed-cone or pine-cone picking in seed bearer communities specially grown in forests is encouraged by the reforestation policy, because of the need to obtain good quality seed. With the increasingly widespread use of plants in containers rather than bare-root plants, land preparation work requires new skills. With the new logging processes, debranched trees can be transported just as well in the form of whole trunks as logs on trailers. Loading, whether it involves logs or whole trunks, is entirely mechanized. Loading is carried out by jammers or by self-loading trucks that in some cases require no assistance. Consequently, the demand for traditional log loaders may lose momentum, in favour of those who are able to operate loading equipment.

5. EDUCATION AND SKILLS

There is no particular educational requirement for entry to these occupations.

6. SALARY

According to the 1986 census, the average salary of workers in this occupational group who were employed full time was $18,580. Forestry workers are often paid on a lump sum basis.

ROTARY WELL DRILLING AND RELATED OCCUPATIONS 7711

Examples: Well Driller, Well Acidizer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
90	85	-5	5	0

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
25	-	-	-	25

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.0	0.0	Under 25 years	16.7	-	Full-time	-	100.0
Males	100.0	100.0	Over 54 years	16.7	-	Part-time	-	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Mines, Quarries & Oil Wells (58)
- Iron Mines (6)
- Misc. Metal mines (17)
- Crude Petroleum & Nat. Gas (6)
- Misc. Non-metal Mines (6)
- Quarries (11)
- Contract Drilling for Petroleum (17)
- Misc. Mining Services (6)

Construction Ind. (12)
- Other Construction (6)
- Special-trade Contractors (6)

Wholesale Trade (11)
- Petroleum Products (11)

Non-Metallic Min. Prod. Ind. (6)
- Stone Products (6)

Electric Power, Gas and Water Util. (6)
- Gas Distribution (6)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment in this occupational group will decline. Very few jobs or none at all are expected to open up over the next few years. The level of employment should remain stable, due to the modest growth anticipated in the mining sector. This occupational group is very sensitive to labour market fluctuations as well as the price of petroleum and raw materials. Entry to these occupations usually requires 5 to 10 years' general experience in related mining operation occupations. Employers require experience acquired within the company itself or in a similar mine.

5. EDUCATION AND SKILLS

Candidates must be at least 18 years of age and have ten years of schooling. A certificate of training on safety measures is preferable as well as a permit or professional competency certificate for operating the machinery. On-the-job training is necessary. For some occupations, such as oil well cementers, rotary rig operators, well acidizers, drillers, oil and gas hoist operators and derrick workers, completion of a training course at the Alberta Petroleum Industry Training Center is recommended. Completion of the secondary vocational course in mechanics is a prerequisite for derrick workers.

6. SALARY

According to the 1986 census, the average salary of rotary well drillers and related workers who were employed full time was $34,072.

ROCK AND SOIL DRILLING OCCUPATIONS 7713

Examples: Core Drill Operator, Air Drill Operator, Drifter, Well Digger

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,450	1,195	-255	135	-120

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
855	-	-	-	855

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.6	1.7	Under 25 years	22.6	-	Full-time	100.0	95.5
Males	99.4	98.3	Over 54 years	8.9	-	Part-time	0.0	4.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Mines, Quarries & Oil Wells (70)
- Iron Mines (1)
- Misc. Metal Mines (19)
- Misc. Non-metal Mines (2)
- Quarries (4)
- Other Contract Drilling (38)
- Misc. Mining Services (6)

Construction Ind. (22)
- Other Construction (3)
- Special-trade Contractors (19)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to decrease. Job openings will result solely from attrition of the present labour force, but they will not be sufficient to offset the expected loss of employment. The decline of the mining markets and intensified foreign competition dim the job outlook in the mining sector where these occupations are concentrated. New mining operation methods, the refinement and implementation of new drilling equipment and the increased use of computer technology in the form of computerized mining equipment and underground terminals should favour drillers who are familiar with this technology.

5. EDUCATION AND SKILLS

There is no minimum level of education for obtaining a job in this group. Candidates must be at least 18 years of age. Rock and soil drillers are trained on the job. Many mining companies recommend that a driller work as a regular miner for at least a year so as to become familiar with mining techniques. Experience acquired within the same company or in a similar mine is preferable.

6. SALARY

According to the 1986 census, the average salary of rock and soil drillers working full time was $32,412.

BLASTING OCCUPATIONS 7715

Examples: Blaster, Dynamiter, Pit Scaler

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
275	170	-105	45	-60

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
90	-	-	-	90

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.0	3.1	Under 25 years	13.1	-	Full-time	97.1	100.0
Males	100.0	96.9	Over 54 years	17.8	-	Part-time	2.9	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Ind. (56)
- Building Construction (3)
- Bridge Construction (3)
- Other Construction (12)
- Special-trade Contractors (38)

Mines, Quarries, Oil Wells (29)
- Iron Mines (3)
- Misc. Metal Mines (4)
- Asbestos Mines (9)
- Misc. Non-metal Mines (5)
- Quarries (8)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment in this occupational group will decline. Job openings resulting from attrition of the present labour force is not expected to offset this loss. Consequently, the number of job openings on the labour market should decrease. The occupations of blaster and dynamiter are sensitive to fluctuations in the mining sector. Employers prefer candidates who have acquired experience in the company itself or in a similar type of mine. In many cases, experience in dynamiting techniques used in road construction may be an asset. Technological advances in coal mine operations, among others, has made it possible to improve performance and safety in mining work, but has reduced the number of job openings.

5. EDUCATION AND SKILLS

Formal education is not very important for these jobs, but candidates must be at least 18 years of age. On-the-job training is required. General experience in other mining occupations is an asset. Dynamiters must be familiar with the relevant safety measures when handling explosives and using the required equipment. For oil well perforators, completion of Grade 10 or the equivalent, preferably with emphasis on mechanics, is required. Completion of a training course at the Alberta Petroleum Training Center is recommended.

6. SALARY

According to the 1986 census, the average salary of blasters and dynamiters working full time was $26,958.

MOULDING, COREMAKING AND METAL CASTING OCCUPATIONS 8137

Examples: Die Casting Machine Operator, Pattern Moulder, Core Setter, Lost-Wax Caster

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,870	1,380	-490	260	-230

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
90	-	-	-	90

OTHER IMPORTANT REQUIREMENTS

This occupational group is affected by technological changes.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.8	3.3	Under 25 years	20.1	-	Full-time	100.0	98.7
Males	96.2	96.7	Over 54 years	12.4	-	Part-time	0.0	1.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Primary Metal Ind. (71)
- Iron and Steel Mills (13)
- Iron Foundries (25)
- Smelting and Refining (23)
- Aluminum Extruding (6)
- Copper Extruding (2)
- Metal Extruding, n.e.c. (2)

Metal Fabricating Industries (5)
- Coating (2)
- Hardware (2)
- Misc. Metal Fabricating Ind. (1)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment in this occupational group will decrease. Jobs will be created mainly through attrition of the present labour force, however, these openings are not expected to offset the loss of employment. The use of automated methods and stronger materials has made it possible to manufacture more durable moulds, and this has had an adverse effect on the demand for workers in this group. As for metal fabricating, the wholesale switch from castings to sheet metal is tending to reduce demand for workers specialized in this area. Technical advances in steel casting processes and the introduction of computer-controlled electronic furnaces have also curtailed job opportunities in these occupations. Furthermore, the metal casting process has been considerably improved and is now very complex. With the lost-wax and lost-foam techniques it is now possible to produce very complex forms. Modern technology has changed the nature of metal casting through such processes as the rapid and precise construction of moulds by means of electronically controlled machines. Technological change makes it imperative for casters to learn how to regulate, operate and maintain modern equipment and to participate in the

4. LABOUR MARKET TRENDS (cont'd)

inspection process, in addition to mastering the traditional techniques. In the iron and steel industry, moulding and coremaking jobs are concentrated in the hardware, tool and cutlery subsectors, which have undergone more extensive automation on account of generally longer production runs. All this, combined with the substitution of plastics and other materials for steel, dims the employment outlook for this occupational group.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to these occupations. However, completion of the secondary vocational course in moulding and metal casting is an asset. Casters may be promoted to the positions of supervisor, moulding inspector or team supervisor. With more advanced training and experience, the more competent moulders may attain the position of manager or laboratory technician.

6. SALARY

According to the 1986 census, the average salary of core setters and metal casters working full time was $27,739.

TOOL AND DIE MAKING OCCUPATIONS 8311

Examples: Die Maker, Tool and Die Repairer, Bench Gig Maker, Die Sinker, Tool Maker

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,845	2,090	245	475	720

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
65	70	-	-	135

OTHER IMPORTANT REQUIREMENTS

The use of numerically controlled machine tools has had an impact on this occupational group.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.2	1.3	Under 25 years	13.6	-	Full-time	99.5	98.2
Males	96.8	98.7	Over 54 years	21.8	-	Part-time	0.5	1.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (29)
- Fabr. Structural Metal Ind. (1)
- Architectural Metal Ind. (1)
- Metal Coating Ind. (5)
- Hardware (15)
- Machine Shops (4)
- Misc. Metal Fabr. Ind. (3)

Misc. Services (5)
- Machinery & Equip. Rental (2)
- Misc. Repair Shops (3)

Transportation Equip. Ind. (14)
- Aircraft & Aircraft Parts (11)
- Motor Vehicles (2)
- Misc. Vehicles (1)

Rubber and Plastics Prod. Ind. (4)
- Rubber Products (1)
- Plastics Products (3)

Electrical Products Ind. (8)
- Major Appliances (2)
- Electrical Industrial Equip. (1)
- Electric Wire and Cable (1)
- Misc. Electrical Products (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. Tool and die makers are highly skilled workers who must possess a range of skills. They manufacture and repair cutting tools, dies and casts that are used to shape metals, plastics and other materials. New technologies have an effect on the tasks of tool and die makers, but to date these changes have had only a moderate impact on employment. Automation could reduce the amount of work involved in many tasks, including layout, and transform other operations, such as internal threading, while using computers to control equipment may replace some manual work methods, particularly moulding, tracing and turning. Some tool-making tasks will become obsolete as numerically controlled machine-tools (NCMTs) are introduced which can automatically convert mechanical drawings into specifications. Still, a number of industries in Quebec are

4. LABOUR MARKET TRENDS (cont'd)

currently having difficulty recruiting tool and die makers, particularly workers skilled in appliedreading of mechanical drawings and template development. Knowledge and skills in computer-aided design and manufacturing (CAD/CAM) and in programming and operating numerically controlled machine-tools are also in demand. The knowledge and understanding required by the development of good dies remain essential assets. The use of new processes does not automatically mean the abandonment of traditional processes. With new technologies, tool and die makers must have both knowledge of and experience in older methods and equipment and knowledge of automated computer-controlled equipment. A good basic knowledge of conventional methods, complemented by experience and an interest in new techniques are major assets.

5. EDUCATION AND SKILLS

Entry to this occupation requires completion of the secondary vocational course in mechanics, machinist option, plus one year of complementary courses in the tool and die making option followed by six to twelve months' on-the-job training. It is possible to enter these occupations by training as a machinist and then acquiring a great deal of machine adjusting experience, as well as through skill upgrading courses.

6. SALARY

According to the 1986 census, the average salary of tool and die makers working full time was $26,800.

MACHINISTS AND MACHINE TOOL SETTING-UP OCCUPATIONS 8313

Examples: Machine Adjuster, Aircraft Machinist, Lathe Hand, Numerical Control Machine Operator, Machine-Tool Setter, Milling Machine Set-Up Operator, Machinist

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
16,250	19,795	3,545	2,785	6,330

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
900	2,730	630	185	4,445

OTHER IMPORTANT REQUIREMENTS

This occupational group is affected by new technologies.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.8	2.2	Under 25 years	28.8	-	Full-time	98.4	98.5
Males	98.2	97.8	Over 54 years	10.7	-	Part-time	1.6	1.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (22)
- Metal Coating (2)
- Metal Wire (1)
- Hardware (3)
- Machine Shops (14)
- Misc. Metal Fabricating Ind. (2)

Machinery Industries (11)
- Misc. Machinery & Equip. (11)

Transportation Equipment Ind. (9)
- Aircraft and Aircraft Parts (9)

Transportation (6)
- Railway Transport (6)

Paper and Allied Industries (3)
- Pulp and Paper Mills (30)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. The introduction of new technologies greatly affects the tasks of these workers. The introduction of computer-controlled production processes, mechanical and electronic automation and robotization could increase demand for machinists and machine-tool setters familiar with computerized and/or programmed equipment and its maintenance. Tool adjustment tasks are often carried out by numerically controlled machine-tools (NCMT), leading to a reduction of certain specialized production jobs to the advantage of new control and monitoring jobs often requiring greater versatility. The computerization of machine-tools means that such operation as the cutting, milling and sharpening of metal parts can be done automatically. The introduction of numerically controlled machines requires increasingly qualified personnel capable of making the necessary adjustments during the production process and has had a positive impact on the group of machinists.

4. LABOUR MARKET TRENDS (cont'd)

New skills are required; for example, in order to use direct numeric control (DCN) lathes, lathe operators must be specialized in numeric control (NC) for each lathe. Skills in blueprint reading, programming, numeric control and computerization are in demand.

5. EDUCATION AND SKILLS

Entry to these occupations requires a secondary vocational course in mechanics, machinist I or II, NCMT operator or precision instrument mechanic option, or complementary tool-maker option, depending on specialization. For adjusters, a secondary vocational course in machining techniques is required. Generally, extensive training and experience in using "older" methods and equipment as well as automated computer-controlled equipment increase job prospects. Knowledge of the metric system is essential.

6. SALARY

According to the 1986 census, the average salary of machinists and machine adjusters working full time was $24,307.

MACHINE-TOOL OPERATING OCCUPATIONS 8315

Examples: Production Machine-Tool Operator, Automatic-Lathe Operator, File Cutter, Production Milling-Machine Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,370	1,760	-610	310	-300

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
115	105	-	-	220

OTHER IMPORTANT REQUIREMENTS

Knowledge of numeric control machine-tools is an asset.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	7.8	Under 25 years	-	-	Full-time	-	99.3
Males	-	92.2	Over 54 years	-	-	Part-time	-	0.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (84)
- Motor Vehicles (60)
- Truck Body and Trailers (13)
- Motor Vehicle Parts and Access. (8)
- Railroad Rolling Stock (2)
- Misc. Vehicles (1)

Wholesale Trade (21)
- Motor Vehicles & Access. (21)

Rubber and Plastics Prod. Ind. (3)
- Rubber Prod. (1)
- Plastics Prod., n.e.c. (2)

4. LABOUR MARKET TRENDS

This occupational group is expected to lose jobs, and openings will result mainly from attrition of the present labour force. The introduction of new technologies has had an effect on the tasks of these workers and their number. Numeric control machine-tool technology (NCMT) has had the most impact. The computerization of machine-tools means that the cutting, milling and grinding of parts are done automatically. With conventional machine-tools, the operator made parts according to a plan and had to have a knowledge of the tools and cutting conditions. Operators turned the machine at the speed they had mastered, and guided the machine's movements manually. With NCMT, the plan is programmed by a special department, the machining process is decided on and the machine's movements are predetermined. NCMT carries out the work. The operator's tasks are increasingly becoming machine- control and monitoring tasks. Tasks related to the manual operation of machines and tools are disappearing. However, the operator must know the codes and languages that control the machine's operation.

4. LABOUR MARKET TRENDS (cont'd)

NCMT can be used by different occupational groups, a situation that is detrimental to operators but to the advantage of machinists and machines adjusters.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to this occupational group. However, a secondary school diploma is an asset. For tool grinders, a secondary vocational course in tool grinding is preferable.

6. SALARY

According to the 1986 census, the average salary of machine-tool operators working full time was $22,896.

INSPECTING, TESTING, GRADING AND SAMPLING OCCUPATIONS: METAL MACHINING

8316

Examples: Differential Tester, Tool Inspector, Gear Inspector

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
370	455	85	135	220

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
10	80	45	-	135

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.7	11.1	Under 25 years	17.7	-	Full-time	96.8	100.0
Males	90.3	88.9	Over 54 years	21.0	-	Part-time	3.2	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (36)
- Fabricated Structural Metal (3)
- Metal Coating (8)
- Wire and Wire Products (5)
- Hardware (11)
- Machine Shops (6)
- Misc. Metal Fabricating Ind. (3)

Primary Metal Ind. (8)
- Aluminum Extruding (3)
- Copper Extruding (3)
- Metal Extruding, n.e.c. (2)

Transportation Equip. Ind. (20)
- Aircraft & Aircraft Parts (10)
- Motor Vehicles (2)
- Motor Vehicle Parts & Access.(3)
- Railroad Rolling Stock (3)
- Misc. Vehicle Man. (2)

Construction Industry (5)
- Other Construction (3)
- Special-trade Contractors (2)

Wholesale Trade (10)
- Motor Vehicles (2)
- Hardware (3)
- Metal & Metal Prod., n.e.c. (3)
- Wholesalers, n.e.c. (2)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to grow at an above-average rate. With the increasingly widespread use of computer-aided control and automated detection, measurement and diagnostic devices, the range of tasks carried out by inspectors is gradually decreasing. Job opportunities for this occupational group could become even more limited. Some industries in the metal sector are restructuring testing responsibilities, so that the workers themselves carry out the various inspection and testing tasks. The repercussions of this reorganization of testers' work could in the more or less long term have a negative impact and bring about a major decrease in the demand for these workers. Moreover, in machine shops it is very often the same people who carry out

4. LABOUR MARKET TRENDS (cont'd)

inspection and packaging. Tests and inspections requiring the use of sophisticated techniques and equipment are often done by technicians, designers or even engineers rather than testers.

5. EDUCATION AND SKILLS

There is no specific educational requirement for these occupations. Employees generally obtain positions through promotion within the company, after having acquired a good knowledge of the machined and manufactured products.

6. SALARY

According to the 1986 census, the average salary of machine shop inspectors, testers and graders working full time was $27,089.

METAL MACHINING OCCUPATIONS, NOT ELSEWHERE CLASSIFIED 8319

Examples: Cutter, Keysmith, Sawsmith, Babitter, Lapper Hand, Hand Filer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
735	765	30	130	160

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
110	70	-	-	180

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.6	6.3	Under 25 years	28.9	-	Full-time	98.3	97.2
Males	96.4	93.7	Over 54 years	10.9	-	Part-time	1.7	2.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (46)
- Boiler and Plate Works (2)
- Fabr. Structural Metal (5)
- Fabr. Architectural Metal (7)
- Metal Coating (5)
- Wire and Wire Prod. (2)
- Hardware (7)
- Machine Shops (15)
- Misc. Metal Fabr. Ind. (3)

Primary Metal Ind. (19)
- Iron and Steel Mills (10)
- Smelting and Refining (7)
- Aluminum Extruding (2)

Wholesale Trade (9)
- Metal and Metal Prod. (6)
- Scrap and Waste Materials (3)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to remain fairly stable. The introduction of new technologies in the metal products and machinery sectors has had an impact on the growth of this occupational group. The use of sheet metal has changed metal machining tasks, and tends to increase machining operations rather than reduce them. The introduction of numeric control machine-tools has eliminated intermediate qualifications, to the advantage of machinists and the detriment of operators.

5. EDUCATION AND SKILLS

There is no particular educational requirement for entry to this occupational group. For saw grinders/repairers, a secondary school diploma in tool grinding and sharpening is an asset.

6. SALARY

According to the 1986 census, the average salary of metal machinists, not elsewhere classified, working full time was $22,201.

SHEET METAL WORKERS 8333

Examples: Sheet Metal Worker, Tinker, Tinsmith, Metal Worker

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,480	5,605	125	810	935

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
835	970	-	230	2 035

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.2	2.5	Under 25 years	23.2	-	Full-time	97.9	98.4
Males	96.8	97.5	Over 54 years	8.7	-	Part-time	2.1	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (43)
- Building Contractors (2)
- Special-trade Contractors (41)

Metal Fabricating Ind. (18)
- Fabr. Structural Metal Ind. (2)
- Architectural Metal Ind. (3)
- Metal Coating Ind. (9)
- Wire and Wire Products Man. (1)
- Misc. Metal Fabr. Ind. (3)

Transportation Equip. Ind. (5)
- Aircraft and Aircraft Parts (3)
- Shipbuilding and Repair (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Most job openings will result from attrition of the present labour force. Employment for this group is sensitive to market fluctuations, particularly in the construction and metal machining sectors. In the short term, job openings may remain few. However, toward the end of the forecast period, the number of jobs in the construction sector are expected to increase and thus stimulate employment growth for sheet metal workers on construction sites. The increased use of sheet metal has a positive impact on employment for these workers. In the construction sector, there are few technological changes that will affect this group. Skill in blueprint reading is sought by employers. In the aircraft maintenance industry there is a constant need for sheet metal workers. In the short and medium term, the demand for sheet metal workers will continue to grow. A number of factors affecting the demand for aircraft maintenance services, such as increased safety regulations, the aging of aircraft and technological changes, also have repercussions on the demand for sheet metal workers in the air transport industry. Increased demand for sheet metal workers will be brought about mainly by the aging of existing aircraft.

4. LABOUR MARKET TRENDS (cont'd)

Replacement of metals with composite materials will constitute the main change in aircraft structure. The nature of the work will change owing to the increased use of non-metallic materials such as ceramics and composite materials. A good basic knowledge of sheet metal and composite materials is an asset for these workers. The ability to read technical manuals and interpret blueprints and drawings as well as mathematical skills for preparing patterns are in demand. The ability to continually upgrade skills in order to keep abreast of technological changes is essential. The ability to work in a team is becoming increasingly important since maintenance work is done by teams of specialized workers.

5. EDUCATION AND SKILLS

There is no specific requirement for entering this occupational group. However, a secondary vocational course in sheet metal mechanics is an asset. Candidates must be registered with the Commission de la construction du Québec to be able to work in construction. A community college diploma is necessary to be able to work in the aircraft repair and maintenance sector. Training in composite materials is given at both the secondary and college levels.

6. SALARY

According to the 1986 census, the average salary of sheet metal workers who were employed full time was $25,227.

WELDING AND FLAME CUTTING OCCUPATIONS 8335

Examples: Gas Brazer, Acetylene Cutter, Solderer-Dipper, Cutting Torch Operator, Laser Welding Technician, Lead Welder, Arc Welder, Welder-Fitter

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
22,815	22,125	-690	2,620	1,930

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
3,240	3,040	-	-	6,280

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.9	3.1	Under 25 years	26.5	-	Full-time	98.5	97.7
Males	97.1	96.9	Over 54 years	7.3	-	Part-time	11.5	2.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (15)
- Boiler and Plate Works (2)
- Fabr. Structural Metal Ind. (4)
- Architectural Metal Ind. (3)
- Metal Coating Ind. (2)
- Machine Shops (2)
- Misc. Metal Fabr. Ind. (2)

Misc. Services (12)
- Welding Shops (12)

Construction Industry (10)
- Building Construction (1)
- Other Construction (2)
- Special-trade Contractors (7)

Machinery Industries (9)
- Agricultural Implement Ind. (1)
- Misc. Machinery Man. (8)

Transportation Equip. Ind. (9)
- Truck Body Man. (3)
- Railroad Rolling Stock Ind. (1)
- Misc. Vehicle Man. (1)
- Shipbuilding and Repair (4)

Primary Metal Industry (5)
- Iron and Steel Mills (2)
- Smelting and Refining (2)
- Metal Extruding, n.e.c. (1)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment in this occupational group will decrease. Job openings will result mainly from attrition of the present labour force. Supply is expected to exceed demand. Technical progress is likely to check employment growth in this group. Increased automation and robotization of welding tasks in manufacturing plants should reduce the number of welding machine operators. The growing number of programmable cutting machines will limit job opportunities for flame cutters who work by hand. Technical innovations are expected to have a more negative impact on less qualified welders, while the employment outlook for highly qualified manual welders should remain bright. For example, automatic welding machines require high-pressure welders rather than regular welders, as is the case for traditional arc welding machines. Even if automatic welding machines can replace 2

4. LABOUR MARKET TRENDS (cont'd)

to 3 regular welding machines and reduce the number of welders needed, the qualifications required for its operation are higher. For welders-fitters and pressure-vessel welders, skill in reading plans and computer-aided manufacturing are in demand.

5. EDUCATION AND SKILLS

Entry to these occupations requires a secondary vocational course in hydrothermics, welder option. There are many kinds of welding, with differing skill requirements depending on the welding technique, type of metal and thickness of material. These range from spot welding requiring very little skill to plasma welding demanding considerable training. These training requirements vary from ferrous to non-ferrous metals. Employers may require a number of construction-related skills as well as pipe-fitting skills. Candidates wishing to work in construction must have a professional competency certificate issued by the Commission de la construction du Québec. In general, welders must be familiar with several welding techniques even if they use only one or two.

6. SALARY

According to the 1986 census, the average salary of welders and flame cutters working full time was $23,880.

INSPECTING, TESTING, GRADING AND SAMPLING OCCUPATIONS: METAL SHAPING AND FORMING, EXCEPT MACHINING

8336

Examples: Chain Inspector, Spring Tester, Can Inspector

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
460	515	55	120	175

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
55	-	-	-	55

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.0	8.9	Under 25 years	22.5	-	Full-time	97.1	100.0
Males	91.0	91.1	Over 54 years	16.2	-	Part-time	2.9	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (30)
- Boiler and Plate Works (5)
- Fabr. Structural Metal (4)
- Architectural Metal Ind. (1)
- Metal Coating Ind. (6)
- Wire and Wire Prod. Man. (10)
- Hardware Man. (1)
- Heating Equipment Man. (1)
- Machine Shops (1)
- Misc. Metal Fabr. Ind. (1)

Business Services (4)
- Eng. and Scientific Serv. (3)
- Misc. Business Serv. (1)

Transportation Equip. Ind. (18)
- Aircraft & Aircraft Parts (4)
- Motor Vehicles (4)
- Motor Vehicle Parts (6)
- Railroad Rolling Stock (1)
- Shipbuilding and Repair (3)

Paper and Allied Industries (2)
- Pulp and Paper Mills (1)
- Misc. Paper Converters (1)

Primary Metal Ind. (13)
- Iron and Steel Mills (6)
- Steel Pipe and Tube Mills (1)
- Smelting and Refining (3)
- Metal Extruding, n.e.c. (3)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. The trend toward integrating quality control and production could limit the demand for inspectors. Each type of forming process requires experienced inspectors with pertinent and varied knowledge. The complexity of the work varies according to the type of inspection that must be carried out. Thus, in addition to sight inspection, welding testers must know how to use precision measurement instruments, penetrant fluorescents, X-ray devices and supersonic and magnetic wave testing devices. For welding inspectors, knowledge of different welding tools and techniques as well as the properties of the metals to be assembled and

4. LABOUR MARKET TRENDS (cont')

cut is essential. At the other extreme, testers of trims on the cut edge of metal parts do not really need advanced training. In general, knowledge of manufacturing processes and direct experience as a worker in manufacturing or processing, or as an assistant, is necessary.

5. EDUCATION AND SKILLS

The educational requirement for this group varies. For advanced testing tasks, specialized training is necessary, while for lower level testing tasks ten years of schooling is sufficient. Inspectors' jobs are usually obtained through promotion within the company, after the employee has acquired good experience and knowledge of the products being manufactured and the techniques used.

6. SALARY

According to the 1986 census, the average salary of inspectors, testers and graders in metal shaping and forming occupations, except machining, working full time was $27,370.

BOILERMAKERS, PLATERS AND STRUCTURAL METAL WORKERS 8337

Examples: Boilermaker, Boiler Repairer, Boilerhouse Repairer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
875	1,055	180	130	310

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
250	25	-	-	275

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	1.3	Under 25 years	12.7	-	Full-time	97.6	100.0
Males	99.0	98.7	Over 54 years	9.5	-	Part-time	2.4	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Metal Fabricating Ind. (27)
- Boiler and Plate Works (14)
- Fabr. Structural Metal Ind. (9)
- Architectural Met. Ind. (1)
- Heating Equip. Man. (2)
- Machine Shops

Transportation Equip. Ind. (9)
- Aircraft & Aircraft Parts (1)
- Shipbuilding and Repair (8)

Construction Industry (27)
- Building Construction (1)
- Other Construction (3)
- Special-trade Contractors (23)

Primary Metal Industries (2)
- Steel Pipe and Tube Mills (1)
- Smelting and Refining (1)

Transportation (11)
- Railway Transport (11)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. Supply should meet demand. Since boilermakers must also repair and renovate existing equipment, they are less affected by cyclical swings in employment than other workers.

5. EDUCATION AND SKILLS

Candidates may enter these occupations through an apprenticeship. There is no basic educational requirement, but a secondary vocational diploma in hydrothermics, sheet metal mechanics option, is an asset.

6. SALARY

According to the 1986 census, the average salary of boilermakers, platers and structural metal workers who were employed full time was $26,981.

MOTOR VEHICLE FABRICATING AND ASSEMBLING OCCUPATIONS, N.E.C. 8513

Examples: Body Assembler, Engine Installer, Door Adjuster, Axle Assembler, Battery Repairer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,830	8,250	3,420	610	4,030

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
215	80	-	-	295

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.9	7.2	Under 25 years	17.0	-	Full-time	97.4	97.8
Males	95.1	92.8	Over 54 years	4.4	-	Part-time	2.6	2.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (85)
- Motor Vehicle Man. (61)
- Truck Body Man. (13)
- Motor Vehicle Parts & Acc. Man. (8)
- Railroad Rolling Stock Ind. (2)
- Misc. Vehicle Man. (1)

Rubber & Plastics Prod. Ind. (3)
- Rubber Prod. (1)
- Plastics Prod. (2)

Wholesale Trade (3)
- Motor Vehicles (3)

4. LABOUR MARKET TRENDS

Employment growth is expected to be higher than average. Job opportunities for this group depend on conditions in the transportation equipment sector, particularly the motor vehicle, trailer and motor vehicle parts manufacturing sector. Though the outlook forecast for the entire transportation equipment industry is bright, employment growth in the motor vehicle sector is likely to be small, but nonetheless significant. At present, Quebec plants are enjoying an increase in production capacity and are boosting employment throughout the industry. Such new technologies as statistical process control (SPC), just-in-time production and delivery, numeric control machine-tools (NCMT) and computerized numeric command machine-tools as well as changes in the way the work is organized are changing the skills required of these workers. The trend toward teamwork noted in the automobile industry requires workers to have skills in communication and working in a group. These skills are becoming major assets for candidates of these occupations. It appears that changes in production methods, quality control and human resources management are tending to increase the qualifications required in terms of analytical,

4. LABOUR MARKET TRENDS (cont'd)

interpersonal and technical skills. Employment is expected to decline for such non-specialized workers as assemblers over the next few years.

5. EDUCATION AND SKILLS

Entry to these occupations generally requires completion of secondary school. On-the-job training is necessary.

6. SALARY

According to the 1986 census, the average salary of workers specialized in motor vehicle fabricating and assembling occupations, not elsewhere classified, who were employed full time was $27,182.

AIRCRAFT FABRICATING AND ASSEMBLING OCCUPATIONS, N.E.C. 8515

Examples: Aircraft Rigger, Plumbing and Hydraulics Aircraft Installer, Metal-Bonding Equipment Operator, Tape-Controlled-Rivetting Machine Assembler

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,160	2,665	505	430	935

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
50	140	595	-	785

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	11.1	Under 25 years	-	-	Full-time	-	95.9
Males	-	88.9	Over 54 years	-	-	Part-time	-	4.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (83)
- Aircraft & Aircraft Parts (83)

Transportation (6)
- Air Transport (4)
- Services Inc. to Air Transp. (2)

Electrical Prod. Ind. (2)
- Communications Equip. Man. (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. Aircraft assemblers work for the most part in the aircraft and aircraft parts manufacturing sector and are therefore dependent on the growth of the industry. The reconditioning of aging aircraft in the present fleet and the constraints posed by the regulations, particularly with respect to safety, should increase the demand for structural aircraft work and thus improve job prospects for aircraft fabricating and assembling occupations. Changes include replacing old electric and mechanical instruments with electronic components. The increased use of new materials, such as plastics, resins and composite materials, is having an impact on the tasks of aircraft assemblers. These workers will have to learn to process a wider range of materials.

5. EDUCATION AND SKILLS

Entry to these occupations requires at least a secondary school diploma. For aircraft structures and surfaces assemblers, metal-bonding equipment operators, and airframe assemblers, a secondary vocational course in aeronautic sheet metal mechanics is preferable. Candidates must undergo on-the-job training dealing specifically with the manufacture and repair of aircraft or aeronautical technology. For some positions, additional training at the college level may be recommended.

6. SALARY

According to the 1986 census, the average salary of aircraft manufacturers and assemblers, not elsewhere classified, working full time was $26,268.

ELECTRICAL AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS, N.E.C.

8533

Examples: Aircraft Electrician, Automobile Electrician, Neon Sign Installer, Household Appliance Installer, Battery Repairer, Refrigeration Worker, Refrigeration Mechanic

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
13,315	15,320	2,005	1,960	3 965

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,040	545	-	-	1,585

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.0	1.6	Under 25 years	20.2	-	Full-time	98.4	98.4
Males	98.0	98.4	Over 54 years	8.6	-	Part-time	1.6	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (13)
- General Marchandise Store (1)
- Automobile Repair Shops (1)
- Furniture Stores (2)
- Radio, Television Repair Shops (8)
- Retaillers, n.e.c. (2)

Primary Metal Industry (3)
- Iron and Steel Mills (1)
- Smalting and Refining (2)

Transp., Comm. & Other Utilities (11)
- Railway Transport (6)
- Urban Transit Systems (2)
- Electric Power (3)

Wholesale Trade (4)
- Electrical Machinery (2)
- Wholesalers, n.c.e. (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. New technologies have led to a greater need for maintenance and repair of computerized or programmed equipment, and this should benefit electrical appliance repairers. In addition to the traditional taaks performed by workers in these occupations, there are tasks related to modern electronic control networks, which include semiconductor controls, programmable control devices and automated networks. Knowledge ans skills in these new fields are in great demand. Training in using such

4. LABOUR MARKET TRENDS (cont'd)

programmable robots and numerically controlled systems is an asset. Demand for refrigeration mechacics is expected to remain steady. Over the past few years, the use of computers to control heating and air conditioning in buildings has increased. Consequently, demand for installers and repairers skilled in these systems is expected to rise. For household appliance repairers, the range of products to be repaired has widened, but the use of electronic parts makes it less likely that appliances will need repairs as often. There is a marked trend, however, toward having expensive household appliances repaired rather than replaced. Continuous cleaning ovens are no longer on the market, but repairers of major appliances may be called upon to repair these that are already installed. Microwave oven repairs are carried out by electronic technicians.

5. EDUCATION AND SKILLS

Entry to the occupation of refrigeration mechanic does not have any basic requirement, but a secondary long vocational course in HVAC, refrigeration worker option, is an asset. Depending on the job, a secondary long vocational course in electrotechnology, with an option in household appliance mechanics, installation and repair of telecommunications equipment or household electronic appliance servicing, may be required. A community college diploma in electronics with a concentration in electronics or visual equipment could be an asset.

6. SALARY

According to the 1986 census, the average salary of installers and repairers of electric and related equipment, not elsewhere classified, working full time was $27,512.

ELECTRONIC AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS, N.E.C. 8535

Examples: Radar Technician, Television Studio Equipment Repairer, Communications Technician, Electronic Technician, Speaker Installer, Communications Equipment Electrician, Radio and Television Technician

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,700	9,280	2,580	875	3,455

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
200	1,560	4,325	-	6,085

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.6	4.1	Under 25 years	23.2	-	Full-time	-	96.5
Males	95.4	95.9	Over 54 years	6.1	-	Part-time	-	3.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Communications (30)
- Radio & Television Broad. (12)
- Telephone Systems (7)
- Telegraph and Cable Systems (1)

Retail Service (13)
- Furniture Stores (5)
- Radio, Television Repair Shops (8)

Electrical Prod. Ind. (10)
- Communications Equip. (10)

Wholesale Trade (7)
- Electrical Machinery (5)
- Wholesalers, n.e.c. (2)

Business Services (5)
- Computer Services (4)

Construction Ind. (4)
- Special-trade Contractors (4)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. The increased use of computers in the manufacturing and industrial sectors will ensure good employment growth. Telecommunications and data transmission are perhaps the fields that have been affected most by rapid changes in equipment and technology. Because of the high cost of telecommunications systems, equipment age varies greatly, and maintenance on a number of generations of equipment must be carried out. With regard to video game equipment, transmitting equipment, audio equipment, television receivers and monitors and speakers, the constant improvement in the reliability and performance of semiconductor equipment will reduce the need for maintenance and repair. However, this trend will be partially offset by the increased technical complexity of the equipment and the greater number of options. Higher sales and lower costs

4. LABOUR MARKET TRENDS (cont'd)

of electronic music equipment, variety, the growing number and technical complexity of high-fidelity stereo systems, car radios and VCRs should stimulate demand in these occupations. There is a trend toward specializing in a limited number of types and makes.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a secondary vocational course in electrotechnology, installer and repairer of telecommunications equipment option. A community college diploma in electrotechnology with a concentration in electronics or audio-visual equipment is an asset. For some occupations it is a basic requirement. The development of existing equipment and the introduction of new equipment require people working in these occupations to continually upgrade their knowledge.

6. SALARY

According to the 1986 census, the average salary of installers and repairers of electronic and related equipment, not elsewhere classified, working full time was $29,471.

INSPECTING, TESTING, GRADING AND SAMPLING OCCUPATIONS: FABRICATING, ASSEMBLING, INSTALLING AND REPAIRING ELECTRICAL, ELECTRONIC AND RELATED EQUIPMENT

8536

Examples: Motor Tester, Electronic System Tester, Electronic Components Inspector

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,600	2,720	120	515	635

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
95	-	-	-	95

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	31.9	33.6	Under 25 years	23.4	-	Full-time	98.0	100.0
Males	68.1	66.4	Over 54 years	8.8	-	Part-time	2.0	0.0

3. LABOUR MARKET TRENDS (1986 %)

Electrical Prod. Industry (56)
- Small Electrical Appliances (2)
- Major Appliances (6)
- Lighting Fixtures (1)
- Communications Equip. (28)
- Electrical Industrial Equip. (6)
- Electric Wire and Cable (3)
- Misc. Electrical Prod. (10)

Machinery Industry (16)
- Office and Store Machinery (16)

Wholesale Trade (4)
- Electrical Machinery (4)

4. LABOUR MARKET TRENDS

Employment for this occupational group is expected to remain relatively stable. Most of the jobs that will open up on the market will result from attrition of the present labour force. The use of lasers to detect defects and the possibility of robotic vision may limit future job growth to some extent. The use of specialized equipment for inspection tasks may limit the need for these workers.

INSPECTING, TESTING, GRADING AND SAMPLING OCCUPATIONS: FABRICATING, ASSEMBLING, INSTALLING AND REPAIRING ELECTRICAL, ELECTRONIC AND RELATED EQUIPMENT

8536

5. EDUCATION AND SKILLS

Entry to these occupations requires at least a secondary vocational diploma, preferably with a specialization in electromechanics of automated systems. A community college diploma in electronics is recommended. Basic knowledge of electronic and electrical equipment is essential. Candidates may attain the position of inspector only after several years of related experience.

6. SALARY

According to the 1986 census, testers and graders in the manufacture, assembly, installation and repair of electrical, electronic and related equipment working full time was $24,809.

RADIO AND TELEVISION SERVICE REPAIRERS 8537

Examples: Television Mechanic, Amplifier Repairer, Electronic Technician in the Furniture Industry, Radio Mechanic

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,090	645	-445	115	-330

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
275	-	-	-	275

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.1	3.4	Under 25 years	24.3	-	Full-time	95.1	94.6
Males	98.9	96.6	Over 54 years	11.4	-	Part-time	4.9	5.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (65)
- General Merchandise Stores (4)
- Furniture Stores (13)
- Radio, Television Repair Shops (47)
- Retailers, n.e.c. (1)

Communications (3)
- Radio and Television Broadcasting (3)

Wholesale Trade (9)
- Machinery (6)
- Wholesalers, n.e.c. (3)

Electrical Products Industry (5)
- Major Appliances (1)
- Televisions (1)
- Communications Equip. (3)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to decline dramatically. Job openings will be created solely through attrition of the present labour force. The increased durability and falling prices of audio and video equipment have limited somewhat the job openings for repairers working in repair shops, despite the surge in demand for such equipment. The transition from analogue electronics to digital electronics has given rise to new product design and the development of new products. Measurement and control instruments differ according to the technology. Optical signal generators and multimeters employ analogue technology, and surge or function generators, meters, logic monitors and multitrack oscilloscopes employ digital technology. Knowledge of these two types of tools is an asset for service repairers since many products now combine both technologies. However, digital technology eliminates numerous manual adjustments. The distribution of such new digital products as compact disc players, video games, etc., could have an adverse effect on employment in the short and medium term, due to the increased

4. LABOUR MARKET TRENDS (cont'd)

reliability of this equipment. The development of integrated circuits and modularization are changing the tasks of service repairers. Diagnosis services are losing ground, while the distribution of disposable modules are taking up a greater portion of their tasks.

5. EDUCATION AND SKILLS

Entry to this occupational group requires a secondary vocational course in electrotechnology, household electronic appliance servicer option. A college-level course in electronics is an asset. On-the-job training is usually required.

6. SALARY

According to the 1986 census, the average salary of radio and television service repairers working full time was $21,927.

CABINET AND WOOD FURNITURE MAKERS 8541

Examples: Furniture Cabinetmaker, Layout Marker, Hand Sander, Mirror Framer

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
11,445	12,080	635	2,040	2,675

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,585	425	-	-	2,010

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	5.0	4.7	Under 25 years	30.3	-	Full-time	95.3	95.1
Males	95.0	95.3	Over 54 years	11.1	-	Part-time	4.7	4.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Furniture Industry (52)
- Household Furniture (43)
- Office Furniture (3)
- Misc. Furniture (6)

Retail Trade (3)
- Furniture Stores (1)
- Retailers, n.e.c. (2)

Wood Industries (24)
- Sash, Door Plants (23)
- Coffin, Casket Ind. (1)

Construction Industry (6)
- Building Construction (2)
- Special-trade Contractors (4)

4. LABOUR MARKET TRENDS

Below-average employment growth is forecast. Job openings will be created through attrition of the present labour force. More than half of these workers are employed in the furniture industry, and more specifically in the household furniture industry. Such negative factors as the low rate of new households being formed, the low level of activity in the residential construction sector, high mortgage rates and foreign competition, may slow down furniture industry growth, thus reducing the demand for cabinet and wood furniture makers.

These occupations remain basically manual. The most commonly used of the new technologies are feeder robots, multi-belt sanders and machines used to make the sides of drawers. These innovations should not affect the volume of employment for cabinetmakers, nor their main tasks. Little change in tasks and qualifications is expected as a result of new technologies.

5. EDUCATION AND SKILLS

There are a number of means of entry to these occupations. One requires a secondary vocational course in furniture and construction and two to four years' on-the-job training under the supervision of an experienced cabinetmaker. Another requires a secondary vocational course and a one- to two-year program in furniture and wood technology at the Victoriaville CEGEP. A community college diploma is an asset.

6. SALARY

According to the 1986 census, the average salary of cabinet and wood furniture makers working full time was $17,788.

PATTERNMAKING, MARKING AND CUTTING OCCUPATIONS: TEXTILE, FUR AND LEATHER PRODUCTS

8551

Examples: Patternmaker, Cutting-Machine Operator, Leather Cutter, Hand Leather Cutter, Canvas Cutter, Garment Cutter, Pattern Cutter, Marker, Fur Cutter

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1. LABOUR MARKET TRENDS FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
4,410	3,745	-665	1,035	370

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
650	-	155	-	805

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	24.3	27.4	Under 25 years	-	-	Full-time	-	96.1
Males	75.7	72.6	Over 54 years	-	-	Part-time	-	3.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Clothing Industries (55)
- Men's Clothing (11)
- Women's Clothing (2)
- Children's Clothing (5)
- Fur Goods (6)
- Misc. Clothing Ind. (12)

Furniture Stores (2)
- Household Furniture (2)

Leather Industries (17)
- Leather Tanneries (1)
- Shoe Factories (11)
- Luggage, Handbags (5)

Retail Industry (1)
- Clothing Stores (1)

Wholesale Trade (3)
- Apparel and Dry Goods (3)

4. LABOUR MARKET TRENDS

These occupations are expected to lose jobs. Job openings will be created through attrition of the present labour force and are not expected to offset the anticipated loss of employment. The outlook in these occupations is linked to the garment and textile sector, which does not appear to be very bright. Foreign competition tends to decrease the market share of local producers who try to remain competitive by reducing their labour costs. The modernization of equipment with a view to increasing productivity may cause job opportunities to decline.

4. LABOUR MARKET TRENDS (cont'd)

Technological changes in the garment industry have an impact on the number and tasks of patternmakers and cutters. Using a computer-made design, the patternmaker prepares a life-size pattern and makes the necessary corrections. Variations of a basic pattern are made on a graphics screen, and the gradation of pattern sizes is done by means of specialized software. All the patterns in all the sizes are stored on computer. Knowledge of this software is an asset for patternmakers. In the long term, new technologies will make it possible to prepare three-dimensional designs and develop a basic life-size pattern from the computer. The implementation of such technology would have an adverse effect on the number of job prospects for patternmakers.

New techniques now make it possible to do marking automatically on a computer-controlled marking table. In time, marking will no longer be required since fabric cutting will be carried out by computer without a marked outline. Although they are not yet widespread, these new techniques may have a negative impact on the demand for markers.

The use of new cutting techniques, such as steel-rule dies, band saws, electric vertical blade knives with computer-aided cutting devices and laser cutting equipment, should not have an impact on the number of cutters since this new equipment cannot be used with all fabrics or styles. However, knowledge of electronic cutting systems is an asset for cutters.

Cutters in the leather industry are now using laser technology for cutting shoe patterns out of cardboard. This new technology is changing the qualifications required of cutters and is likely to have an adverse effect on the demand for cutters in this industry.

5. EDUCATION AND SKILLS

In general, entry to these occupations requires completion of secondary school. For pattern graders, markers and cutters, a secondary vocational diploma, pattern design option, is necessary. For garment patternmakers, a community college diploma in men's or women's fashion design technology is an asset.

6. SALARY

According to the 1986 census, the average salary of patternmakers, markers and cutters of fabric, fur and leather, working full time was $18,293.

TAILORS AND DRESSMAKERS 8553

Examples: Costumer, Dressmaker, Ready-to-Wear Garments Tailor, Made-to-Measure Garments Tailor

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
23,340	22,105	-1,235	7,645	6,410

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,175	1,785	155	-	3,115

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	59.8	89.9	Under 25 years	-	-	Full-time	-	92.3
Males	40.2	10.1	Over 54 years	-	-	Part-time	-	7.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Clothing Industries (62)
- Men's Clothing (18)
- Women's Clothing (24)
- Children's Clothing (4)
- Foundation Garment Ind. (2)
- Misc. Clothing Ind. (14)

Retail Services (6)
- Men's Clothing Stores (3)
- Women's Clothing Stores (2)
- Clothing Stores, n.e.c. (1)

Personal Services (8)
- Dry Cleaners (1)
- Misc. Personal Services (7)

Leather Industries (2)
- Shoe Factories (2)

Textile Industry (6)
- Misc. Textile Industries (3)
- Knitting Mills (3)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to decrease. Jobs will be created mainly through attrition of the present labour force. Replacement openings should offset the loss in employment, and some 6,400 job openings are expected over the forecast period. Such factors as shorter fashion cycles and revaluation of custom-made garments by an affluent clientele may cause the demand for tailors to increase. This trend is also marked by a broader product range.

4. LABOUR MARKET TRENDS (cont'd)

The use of new technologies may affect tailors' tasks. With the computer, it is possible to automatically alter patterns for made-to-measure orders. The desired size is stored on a terminal and changes to the pattern are calculated automatically. Cutting is becoming very important since it is not standardized and requires an experienced tailor.

A number of men's garments manufacturers use computer-controlled laser beams to cut the fabric. Because of these innovations, different skills may be required of tailors and dressmakers who work in factories.

5. EDUCATION AND SKILLS

There are a number of means of entry to these occupations. A community college diploma in men's or women's fashion technology or in fashion design is an asset for tailors, haute-couture dressmankers and suit makers. For ready-to-wear garment tailors, men's garment tailors and suit makers, a secondary vocational diploma in garment making, sales and styling, fashion and apparel option, is required. For dressmakers, specialization in garment repair and alteration is preferable.

6. SALARY

According to the 1986 census, the average salary of tailors and dressmakers working full time was $12,840.

MOTOR VEHICLE MECHANICS AND MOTOR VEHICULE REPAIRMEN

8581

Examples: Motorcycle Repairer, Snowmobile Repairer, Body Repairer, Tune-up Person, Garage Mechanic, Body Repairer-Painter, Muffler Installer, Auto Mechanic, Truck Mechanic, Bus Mechanic, Car Engine Mechanic

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
37,065	32,400	-3,000	3,925	-925

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
3,945	6,210	360	0	10,515

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.8	0.6	Under 25 years	28.8	-	Full-time	97.5	97.5
Males	99.2	99.4	Over 54 years	6.3	-	Part-time	2.5	2.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (74)
- Tire Stores (2)
- Gasoline Serv. Stations (6)
- Motor Vehicle Dealers (16)
- Motor Vehicle Repair Shops (48)
- Retailers, n.e.c. (2)

Transportation (6)
- Other Truck Transport (3)
- Urban Transit Systems (2)
- Other Transportation (1)

Wholesale Trade (3)
- Wholesale Motor Vehicles (3)

4. LABOUR MARKET TRENDS

Employment for this occupational group is expected to decline. The automobile repair sector has experienced rapid change in recent years. Factors such as the extension of warranties, the growing complexity of mechanical and electronic parts in vehicles and the high cost of diagnostic and repair devices has had the effect of concentrating activity in this field within the dealer network and facilitating the appearance of specialized repair shop chains. The concentration of repairs, both mechanical and body, has resulted in the closing down of a large number of independent garages which until then accounted for a high proportion of labour specializing in automobile repairs. These changes will continue to take place over the next few years and cause the demand for motor vehicle mechanics and repairers to decline. Nonetheless, the labour demand will persist, mainly because of the job openings created through attrition of the present labour force and especially because of the new skills required. The growing complexity of motor vehicles requires mechanics to have specialized skills and a knowledge of technological advances in their field. In addition to the usual skills in mechanics, a basic knowledge of

4. LABOUR MARKET TRENDS (cont'd)

electronics is a prerequisite. The employment outlook is brighter for mechanics who are familiar with such technological developments as safety and protection devices, electronic gadgetry on the dashboard as well as computer diagnosis. The latter requires that the mechanic be able to read codes and interpret computer data. Because of the complexity of the diagnosis procedure, the demand for mechanics specialized in this area should grow. New technologies have created a trend toward specialization. Thus, formerly non-specialized tasks such as the repair of oil and gas gauges and anti-pollution devices have become extremely specialized since the advent of light emitting diode (LED) gauges. Also, transmission mechanics are becoming increasingly specialized. The use of the new technologies should affect the electronic components of all the major components of the automobile, anti-lock brake system, four-wheel drive, variator transmission, unibody construction, new materials (plastic, new steel and ceramic alloys), the suspension and fuel injection systems. Mechanics with a knowledge of these new methods have an advantage on the labour market. The increase in the sale of imported cars means that mechanics with the specific skills required by the design and different construction of these cars as opposed to North-American cars face better job prospects. With the increase in the number of recreational vehicles and trailers, skills in installing and repairing shock absorbers and in automatic and manual balancing are increasingly in demand. For industrial mechanics, knowledge of electronics, microelectronics and propane and diesel combustion engines is in demand. The increased use of unibody construction requires that body repairers be able to modify the entire structure of the vehicle. Repairs using fibreglass are done more and more frequently in shops where snowmobiles and boats are repaired. This type of work will increase if the trend toward building fibreglass bodies continues. At the present time, there are few shops specializing in fibreglass repairs. In general, traditional skills in hydraulics, fuel combustion and mechanics in addition to a knowledge of electronics are very much in demand. An aptitude for understanding and using precision instruments and computers is an important asset, as well as the ability to write, understand and use circuit diagrams and instruction manuals. Manual dexterity for working on delicate electronic components is in demand.

5. EDUCATION AND SKILLS

Entry to this occupational group usually requires a secondary vocational course in motorized equipment, motor vehicle mechanics II option. Complementary options in motor vehicle mechanics I, body work and painting, body work or light motor vehicle mechanics are assets depending on the job desired.

6. SALARY

According to the 1986 census, the average salary of motor vehicle mechanics and repairers working full time was $21,027.

AIRCRAFT MECHANICS AND AIRCRAFT REPAIRMEN

8582

Examples: Helicopter Mechanic, Aircraft Engine Mechanic, Jet Mechanic

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,200	3,680	480	580	1,060

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
110	75	475	0	660

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.4	1.2	Under 25 years	18.7	-	Full-time	98.8	99.4
Males	98.6	98.8	Over 54 years	12.3	-	Part-time	1.2	0.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (67)
- Air Transport (58)
- Serv. Incidental to Air Transportation (9)

Transportation Equip. Ind. (24)
- Aircraft & Aircraft Parts (24)

Gov't Service (4)
- Defence Services (4)

4. LABOUR MARKET TRENDS

Employment is expected to grow at about the average rate. This occupational group is concentrated mainly in the air transport and aircraft and aircraft parts manufacturing sectors. The demand for aircraft maintenance services is indirectly affected by factors that influence the growth of the air transport sector such as the overall economic climate, regulations and technological advances. The expected economic slowdown early in the forecast period could result in a reduction in travel spending. Deregulation of the air transport sector has increased competition among carriers and the wave of mergers and acquisitions should continue over the next few years. Though a contraction in the overall demand is expected in the short term, the long-term outlook should remain bright. The aging of the population is a factor which could cause an increase in the requirement for air transport and therefore in the demand for maintenance services. The growing number of well-to-do retirees could have a considerable positive effect on the requirement for recreational travel. The medium- and long-term demand for aircraft maintenance services should be stronger than the short-term demand. A number of other factors influence the demand for aircraft maintenance services: the age of the fleet, its size, its composition, use, air safety regulations and the reconditioning of old aircraft. The impact of these factors varies with the sector of the industry: helicopters require extended maintenance services, while air carriers are subject to strict

4. LABOUR MARKET TRENDS (cont'd)

regulations and must conform to safety standards and alterations that have an impact on the need for maintenance. Growing public concern about to safety is having an impact on safety standards and on suppliers of air services. Mandatory changes made to operational aircraft may have significant repercussions on the maintenance industry. The slow increase in the use of aircraft and the size of the fleet, resulting from the current economic slowdown and the continued consolidation of companies, could slow down the short-term demand for maintenance services. However, as the current fleets age and the industry adapts to globalization, the demand for maintenance services will grow.

Technological change affects the demand for aircraft mechanics and repairers and the skills required of them in the following three ways: through the introduction of aircraft equipped with new technology, through the reconditioning of old aircraft using old technology and through the advent of new maintenance technology. Technological advances in aircraft are changing maintenance techniques, mainly with respect to diagnosis, testing and inspection. Such manufacturing technologies as digitally controlled machines, have also had an impact on maintenance. Computer technology has made the management of maintenance operations easier. In this context, maintenance personnel must keep abreast of new developments, particularly with respect to their analytical and decision-making abilities in the area of diagnosis. Technical skills in electronics, avionics, computers and non-destructive testing, are in demand in certain aviation sectors. The demand for knowledge of new technologies should be gradual, but the skills required will change more and more.

Aircraft maintenance, revision, reconditioning and modifications require team work. Good communication skills are an asset. For aircraft technicians, the ability to read very technical manuals, blueprints and diagrams as well as interpret them is in demand. Diagnostic skills, knowledge of aircraft systems, of the aerodynamics of aircraft structures and basic applied mechanics are also in demand. An in-depth knowledge of electronics is necessary for avionics technicians working in a shop. Writing skills are important for preparing reports on defects. With the computerization of files, knowing how to use a computer keyboard in order to keep files up to date is essential. Basic computer knowledge is very important for propulsion and hydraulic technicians working in shops. Overall, the minimum requirements for aircraft maintenance trades have been raised. In addition to advanced technical skills, the ability to read and to communicate verbally are in demand.

5. EDUCATION AND SKILLS

Entry to the occupation of aircraft mechanic requires a college diploma in aircraft maintenance with one or two years' on-the-job training. Graduates must have their own basic tools. Aircraft technicians are trained through a college program recognized by Transport Canada and three to five years (depending on the specialty) of on-the-job training offered by the employer. The ability to work in a team and availability for on-the-job training are very important.

6. SALARY

According to the 1986 census, the average salary of aircraft mechanics and repairers working full time was $31,112.

RAIL TRANSPORT EQUIPMENT MECHANICS AND RAIL TRANSPORT EQUIPMENT REPAIRMEN

8583

Examples: Streetcar and Subway Car Mechanics, Brake Repairer, Car Repairer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,755	1,565	-190	265	75

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
45	0	0	0	45

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	1.2	Under 25 years	21.9	-	Full-time	99.1	98.6
Males	99.0	98.8	Over 54 years	16.6	-	Part-time	0.9	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (89)
- Railway Transport (84)
- Urban Transit Systems (5)

Transportation Equip. Ind. (5)
- Railroad Rolling Stock (5)

4. LABOUR MARKET TRENDS

This occupational group is expected to lose some jobs. The jobs that will open up will be created for the most part through attrition of the current labour force. Most of the rail mechanics' jobs are in the railway transport sector. Given the depressed conditions in this sector, however, the employment outlook for this occupational group is very dim. In fact, the general rationalization and job reduction policy adopted since 1985 by most railway companies applies to all departments and should reduce the number of mechanics and repairers required. New inspection techniques such as digital train inspections, the installation of heat detectors and new indicators in the driver's cabin could have an impact on tasks, particularly those involving manual train inspection, and on the number of mechanics. Mechanics and repairers are increasingly required to have new skills, such as reading and preparing plans and diagrams related to electrical and electronic technologies. Shift work and overtime may be part of the regular schedule.

RAIL TRANSPORT EQUIPMENT MECHANICS AND RAIL TRANSPORT EQUIPMENT REPAIRMEN

8583

5. EDUCATION AND SKILLS

Employers prefer candidates who have completed their secondary school education. Candidates must undergo on-the-job training which may last from six months to four years depending on the specialty (car repairers, air valve repairers).

6. SALARY

According to the 1986 census, the average salary of rail mechanics and repairers working full time was $27,219.

INDUSTRIAL, FARM AND CONSTRUCTION MACHINERY MECHANICS AND REPAIRMEN

8584

Examples: Knitting Machine Adjuster, Turbine Repairer, Farm Machinery Repairer, Sewing Machine Repairer, Diesel Mechanic

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
25,482	26,240	760	4,320	5,080

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	LABOUR SUPPLY 1989-2000
1,945	2,620	255	0	4,820

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	1.1	Under 25 years	18.3	-	Full-time	98.6	98.5
Males	99.0	98.9	Over 54 years	11.2	-	Part-time	1.4	1.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Paper Industries (8)
- Pulp and Paper Mills (8)

Primary Metal Ind. (6)
- Iron and Steel Mills (2)
- Smelting and Refining (4)

Wood Industries (3)
- Sawmills (3)

Wholesale Trade (7)
- Farm machinery (3)
- Machinery & Equip., n.e.c. (4)

Mines, Quarries, Oil Wells (4)
- Iron Mines (2)
- Misc. Metal Mines (1)
- Asbestos Mines (1)

Rubber & Plastics Prod. Ind. (2)
- Rubber Prod. (1)
- Plastic Prod. (1)

Construction (6)
- Misc. Construction (1)
- Special Trade Contractors (5)

Textile Industries (4)
- Cotton & Yarn Cloth Mills (1)
- Man-made Fibre, Yarn & Cloth (1)
- Misc. Textile Ind. (2)

Food & Beverage Ind. (2)
- Dairy Ind. (1)
- Beverage Ind. (1)

4. LABOUR MARKET TRENDS

Employment for this occupational group should remain relatively stable. The jobs that will open up will be created for the most part through attrition of the current labour force. The increasing complexity of farm machinery (transmission and engine) and industrial equipment will lead to greater opportunities for those who do maintenance and repair work. Technological changes in the farming equipment sector have encouraged the use of wet clutches rather than the dry type, hydrostatic transmissions rather than the traditional manual or automatic ones, pneumatic control seeders rather than traditional ones, and the use of power steering. These advances have changed the jobs of farm machinery mechanics. Heavy machinery mechanics have also been affected by changes:

4. LABOUR MARKET TRENDS (cont'd)

gradual elimination of differential systems and replacement with hydrostatic controls, the use of wet friction clutches instead of dry clutches and the increased use of power steering all require new skills. Skills in the maintenance and repair of complex equipment involving robotics, welding, hydraulics, pneumatics, automation, computer-aided manufacturing processes, and computerization in the workplace are in demand.

5. EDUCATION AND SKILLS

There is no specific educational requirement for these occupations. A secondary vocational course in mechanics, maintenance mechanics option, or in agricultural technology, agricultural mechanics option, or in motorized equipment, diesel mechanics and heavy machinery options is an asset. In agricultural hydraulics technology, a college diploma is an important asset. To be able to work in construction, candidates must hold a permit issued by the Commission de la construction du Québec.

6. SALARY

According to the 1986 census, the average salary of mechanics and repairers of industrial and farm machinery working full time was $27,926.

BUSINESS AND COMMERCIAL MACHINE MECHANICS AND REPAIRMEN 8585

Examples: Cash Register Mechanic, Electronic Machine Mechanic, Typewriter Servicer, Cash Register Servicer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,720	1,420	-300	125	-175

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
60	0	0	0	60

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.4	1.9	Under 25 years	30.6	-	Full-time	97.1	98.5
Males	97.6	98.1	Over 54 years	5.5	-	Part-time	2.9	1.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (86 %)

Wholesale Trade (34)
- Electrical Machinery (3)
- Machinery & Equip., n.e.c. (31)

Misc. Services (9)
- Machinery Rental (9)

Electrical Prod. Industries (2)
- Communications Equip. (2)

Machinery Ind. (11)
- Office Machinery (11)

Communication (4)
- Post Office (4)

Business Services (11)
- Computer Services (6)
- Misc. Services (5)

Printing and Publishing (2)
- Commercial Printing (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that this occupational group will lose jobs. Job openings will be created solely through attrition of the current labour force, but they will not be sufficient to offset the loss of employment. Though business machines are becoming increasingly versatile and widespread, the growing use of electronic components has made them more reliable and in need of fewer repairs than previously. However, demand for typewriter and printer servicers is expected to remain strong, while demand for service of traditional typewriters will diminish with the more widespread use of word and data processing equipment. Servicing of photocopiers and peripheral equipment and cash registers should increase with demand for such equipment. However, the growing variety and technical complexity of business machines have resulted in a trend toward specialization in a limited number of types and makes of equipment. As regards dictating machines and telephone answering machines, the trend toward

4. LABOUR MARKET TRENDS (cont'd)

equipment requiring little maintenance will reduce the number of job opportunities. Ability to benefit from training is necessary in these occupations because the ongoing development of the equipment means continual updating of skills. Upgrading of functional and practical skills, rather than theoretical knowledge, is essential for senior technicians (more than five years). Knowledge of microprocessors, digital circuits, servo systems, programmable monitors, telecommunications and data transmission is in demand. Good verbal communication skills and basic training in human relations and business practices are sought after by employers.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a secondary vocational course in mechanics, business machine mechanics option. Since machines differ from one company to the next, employers generally provide additional training on the company's machines.

6. SALARY

According to the 1986 census, the average salary of business and commercial machine mechanics and repairers was $23,879.

WATCH AND CLOCK REPAIRMEN

8587

Examples: Gas Meter Repairer, Watch Repairer, Parking Meter Mechanic

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
125	75	-50	40	-10

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
20	30	0	0	50

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	6.6	6.7	Under 25 years	16.4	-	Full-time	97.8	100.0
Males	93.4	93.3	Over 54 years	21.3	-	Part-time	2.2	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (66)
- Motor Vehicle Repair Shops (6)
- Furniture Stores (6)
- Jewellery Stores (16)
- Watch and Jewellery Repair Shops (38)

Elec. Power, Gas & Water Utilities (3)
- Electric Power (3)

Wholesale Trade (3)
- Machinery and Equipment, n.e.c. (3)

Misc. Manufacturing Ind. (13)
- Scientific & Prof. Equip. (13)

Health and Social Serv. (3)
- Hospitals (3)

- Gov't Service (6)
- Local Gov't Service (6)

Transportation (3)
- Highway & Bridge Maintenance (3)

4. LABOUR MARKET TRENDS

This occupational group is expected to lose jobs. Job openings will be created through attrition. Overall, the number of employment opportunities should decline, and a surplus of qualified labour is anticipated. The increasing durability and falling prices of watches have reduced the need to repair them. It is cheaper for consumers to replace rather than repair the new reliable electronic time pieces. As a result, employment opportunities for watchmakers and repairers have diminished. And as watches are now made of modular components, repair time and therefore the need for repairers is reduced. However, there is a market for the maintenance of expensive time pieces whose numbers are constantly growing.

WATCH AND CLOCK REPAIRMEN

8587

5. EDUCATION AND SKILLS

Entry to the occupation of watchmaker requires a secondary vocational course in mechanics, clockmaker option.

6. SALARY

According to the 1986 census, the average salary of watch and clock repairers was $19,892.

PRECISION INSTRUMENT MECHANICS AND REPAIRMEN

8588

Examples: Camera Repairer, Gyroscope Repairer, Aircraft Instrument Mechanic, Medical Instrument Repairer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
650	845	195	75	270

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	LABOUR SUPPLY 1989-2000
25	65	60	0	150

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.0	5.6	Under 25 years	20.5	-	Full-time	98.3	95.5
Males	96.0	94.4	Over 54 years	5.9	-	Part-time	1.7	4.5

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (7)
- Aircraft & Aircraft Parts (7)

Health and Social Services (6)
- Hospitals (6)

Retail Trade (5)
- Retailers, n.e.c. (5)

Petroleum Prod. Ind. (4)
- Petroleum Refineries (4)

Printing and Publishing (3)
- Platemaking, Typesetting Trade Bindery (3)

Wholesale Trade (7)
- Machinery & Equip., n.e.c. (7)

Business Services (6)
- Scientific Studies and Services (6)

Misc. Manufacturing Ind. (5)
- Scientific and Prof. Equip. (5)

Mines, Quarries & Oil Wells (4)
- Iron Mines (2)
- Crude Petroleum and Nat. Gas (2)

Primary Metal Ind. (3)
- Smelting and Refining (3)

Transportation (6)
- Air Transport (6)

Misc. Services (6)
- Photography, n.e.c. (4)
- Equipment Rental (2)

Electrical Prod. Ind. (4)
- Communications Equip. (4)

Paper Industries (3)
- Pulp and Paper (3)

Chemical Prod. Industries (3)
- Plastics (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. New computer technologies are increasing employment opportunities for precision instrument mechanics who have a knowledge of digital and analogue technology. Knowledge of microcomputers and programming is an asset. The growing sophistication of precision instruments, particularly those used in medicine, laboratories, the aircraft industry and telemetering means that jobs are opening up for specialized mechanics. The trend toward greater use of electric detectors, digital transmitters and indicators, electronic processing equipment, electronic transmitters, electric signal detectors and electronic control devices may stimulate employment opportunities for this occupational group.

5. EDUCATION AND SKILLS

Entry to these occupations requires a community college diploma in electrotechnology with a concentration in instrumentation-control, followed by six to twelve months of on-the-job training. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of precision instrument mechanics and repairers working full time was $30,527.

OTHER MECHANICS AND REPAIRMEN, N.E.C.

8589

Examples: Auto Greaser, Oil Burner Servicer, Gunsmith, Locksmith, Vending Machine Servicer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,825	3,035	210	495	705

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
305	670	215	0	1,190

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.1	3.2	Under 25 years	25.2	-	Full-time	95.8	97.0
Males	95.9	96.8	Over 54 years	12.4	-	Part-time	4.2	3.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Retail Trade (26)
- Gasoline Serv. Stations (1)
- Motor Vehicle Dealers (2)
- Motor Vehicle Repair Shops (3)
- Radio and Television Repair Shops (1)
- Retailers, n.e.c. (19)

Misc. Services (16)
- Misc. Repair Shops (16)

Paper Industries (8)
- Pulp and Paper (8)

Wholesale Trade (6)
- Petroleum Prod. (2)
- Machinery and Equip., n.e.c. (3)
- Hardware Stores (1)

Construction (4)
- Special Trade Contractors (4)

Metal Fabricating Ind. (3)
- Architectural Metal Ind. (3)

Misc. Manufacturing Ind. (2)
- Sporting Goods and Toys (2)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment will grow at a below-average rate, and the labour supply is expected to exceed the demand. This occupational group, encompassing small-engine repairers, can be subject to various market fluctuations; for instance, the introduction of gas has reduced demand for oil burner servicers, but the demand for gas servicers has increased. With respect to the repair of hydraulic equipment, skills in practical hydraulics, pneumatics and automation are in demand.

5. EDUCATION AND SKILLS

Entry to these occupations varies with the specialty. Gunsmiths require some secondary schooling, locksmiths require Secondary II, as do vending machine servicers, although a secondary vocational course in electrotechnology, vending machine option, is an asset to the latter. Small-engine mechanics-repairers must have completed a secondary vocational course in motorized equipment, light vehicle mechanic option.

6. SALARY

According to the 1986 census, the average salary of mechanics and repairers working full time, with the exception of electricians n.e.c. was $22,412.

JEWELLERY, SILVERWARE FABRICATING, ASSEMBLING AND REPAIRING OCCUPATIONS

8591

Examples: Diamond Setter, Gem Cutter, Jeweller, Gemologist, Polisher

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,755	2,540	785	560	1,345

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
190	-	-	-	190

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	29.5	34.2	Under 25 years	19.4	-	Full-time	91.0	91.3
Males	70.5	65.8	Over 54 years	11.0	-	Part-time	9.0	8.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Misc. Manufacturing Ind. (52)
- Scient. & Prof. Equip. (1)
- Jewellery & Silverware (51)

Retail Trade (41)
- Jewellery Stores (33)
- Watch & Jewellery Repair Shops (8)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate, based on the outlook in the retail trade sector. According to the 1986 census, more than 40% of jewellers were working in the commercial sector and 52% in the manufacturing sector. In the jewellery industry, the future lies in the creation of beautiful high-quality pieces. Jewellers are increasingly required to use their creative abilities. For jewellers in medium quality and bargain jewellery shops, the outlook is not as good since the market is saturated with these types of businesses. Jewellery making has not experienced great technological changes (except for numeric control). The existing sophisticated machines have not really changed the trade and their use is not widespread.

5. EDUCATION AND SKILLS

Entry to these occupations is usually requires a secondary vocational course in mechanics, jeweller or jewellery handicraft option. The Quebec Jewellers' Corporation offers a two-year correspondence course in jewellery making. Registration with the Corporation is not compulsory.

6. SALARY

According to the 1986 census, the average salary of diamond setters, lapidaries, jewellers and silverware workers who were employed full time was $15,588.

MARINE CRAFT FABRICATING, ASSEMBLING, REPAIRING OCCUPATIONS

8592

Examples: Shipwright, Rigger, Outboard Motor Mechanic, Wooden Boat Repairer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,835	2,260	425	515	940

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
190	160	45	-	395

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.4	1.3	Under 25 years	25.9	-	Full-time	93.4	96.3
Males	97.6	98.7	Over 54 years	14.2	-	Part-time	6.6	3.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation Equip. Ind. (71)
- Shipbuilding and Repair (41)
- Boatbuilding and Repair (30)

Construction Industry (9)
- Building Construction (3)
- Other Construction (2)
- Special-trade Construction (4)

Retail Trade (3)
- Retailers, n.e.c. (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. This sector of employment is often unstable because it is vulnerable to market conditions and interest rates. Trends in these occupations are directly related to trends in ship repair and maintenance. In the medium term, government contracts for regatta construction should maintain employment opportunities. However, prospects in the motorboat construction industry may be checked by the recent difficulties experienced by this industry due to the drop in the demand for pleasure boats which is very sensitive to economic conditions. Moreover, a slowdown has been noted in the renewal of fishing-boat fleets, and this could mean a shift from construction work toward maintenance and repair. Technological changes in the naval construction industry have involved the use of laser beams for welding and cutting of steel and steel alloys. Skills in the operation of tools and machinery affected by this new technology are in demand.

5. EDUCATION AND SKILLS

The minimum requirement for entry to these occupations is completion of secondary school. The skills required vary with the area of specialization and the type of boat that is being built or repaired. College-level courses, with an emphasis on welding, mechanics, piping and marine engineering may facilitate entry to these occupations. Some necessary skills are acquired through on-the-job training. For outboard motor mechanics, a secondary vocational course in motorized equipment, light vehicle general mechanic option, is required.

6. SALARY

According to the 1986 census, the average salary of marine craft builders and repairers working full time was $24,776.

EXCAVATING, GRADING AND RELATED OCCUPATIONS

8711

Examples: Cat Operator, Heavy Equipment Operator, Grader Operator, Backhoe Operator, Pipe Layer, Bulldozer Operator, Digger Operator, Excavator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9,035	8,215	-820	1,450	630

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
3,985	-	-	-	3,985

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	0.9	Under 25 years	11.0	-	Full-time	98.1	95.0
Males	99.0	99.1	Over 54 years	10.6	-	Part-time	1.9	5.0

3. MAIN SECTOR PROVIDING EMPLOYMENT (1986 %)

Construction Industry (61)
- Building Construction (5)
- Highway, Bridge Constr. (10)
- Other Construction (7)
- Special-trade Contractors (39)

Forestry (5)
- Logging (5)

Transportation (9)
- Other Truck Transport (2)
- Road and Highway Maint. (7)

Wood Industries (3)
- Sawmills (3)

Gov't Service (6)
- Provincial Service (1)
- Provincial Service (5)

Paper and Allied Ind. (2)
- Pulp and Paper Mills (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Job openings will result mainly from attrition of the present labour force. The long-term outlook depends on general economic conditions, more specifically those affecting the large hydroelectric projects. Until the mid-1990s, Hydro-Quebec's Great Whale project should result in an increase in the demand for excavation workers. Reconstruction and improvement of the roads and infrastructure should also help to increase the number of job opportunities. At the end of the forecast period, employment should return to lower levels. However, the forecasts shown above do not include the second phase of the Hydro-Quebec project which may be completed toward the end of the 1990s. Implementation of the project could reverse the forecast trend and maintain the demand for excavation workers and graders.

4. LABOUR MARKET TRENDS (cont'd)

Technological advances have had an impact on these occupations due to the use of new, more productive equipment allowing operators to do more work with more precision than previously. This trend should continue over the next few years. Employment is seasonal, and the jobs available are sometimes in remote regions.

5. EDUCATION AND SKILLS

Formerly, beginners learned on the job. However, with the use of increasingly technical machinery, a secondary vocational course in motorized equipment, digger operator or heavy equipment option, is an asset. An apprentice time card or a professional competency certificate is required.

6. SALARY

According to the 1986 census, the average salary of excavation workers, graders and related workers who were employed full time was $26,237.

ELECTRICAL POWER LINE WORKERS AND RELATED OCCUPATIONS

8731

Examples: Lineman, Electric Power Line Repairer, Cable Installer-Repairer

1. LABOUR MARKET TRENDS 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,875	5,215	1,340	420	1,760

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
525	-	-	-	525

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.4	2.3	Under 25 years	20.7	-	Full-time	96.5	-
Males	98.6	97.7	Over 54 years	6.2	-	Part-time	3.5	-

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transp., Comm., Public Util. (57)
- Telephone Systems (2)
- Electric Power (55)

Construction Industry (33)
- Other Construction (21)
- Special-trade Contractors (12)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate due to the completion of the James Bay hydroelectric projects. The increase in electricity exports to the United States should bring about the construction of new power plants and thus stimulate the demand for line workers. Line workers assigned to construction, rather than maintenance, are expected to enjoy the greatest employment growth. However, employment in the services and maintenance sector should increase as transmission and distribution networks grow in size and complexity.

5. EDUCATION AND SKILLS

Entry to these occupations is made easier by completion of a secondary vocational course in electrical installation or in electrical assembly of power lines, distribution and transport.

6. SALARY

According to the 1986 census, the average salary of line installers and related workers who were employed full time was $34,585.

CONSTRUCTION ELECTRICIANS AND REPAIRMEN

8733

Examples: Meter Installer, Electrical Contractor, Building Wiremen

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
12,415	11,540	-875	1,385	510

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
2,670	2,605	1,680	-	6,955

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	1.0	Under 25 years	20.7	-	Full-time	96.5	96.2
Males	99.0	99.0	Over 54 years	6.2	-	Part-time	3.5	3.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (67)
- Building Construction (2)
- Special-trade Contractors (65)

Manufacturing Industries (4)

Transportation, Comm. and Other Public Util. (6)
- Railway Transport (1)
- Electric Power (5)

Paper and Allied Industries (3)
- Pulp and Paper Mills (3)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to decrease. Job openings will result mainly from attrition of the present labour force. Construction electricians are employed for the most part in the construction (new) sector, and a smaller portion of their work is devoted to maintenance, repair renovation and modification of electric installations. Low investments in construction, particularly the drop anticipated in the residential construction sector, and the moderate growth in industrial construction should slow down employment growth in this group. The James Bay hydroelectric engineering construction project should maintain job opportunities, particularly during the first half of the forecast period. Technological developments in building design could translate in the long term into an increase in the number of electricians' jobs available. The increased use of various types of computerized control systems in buildings, such as heating, air conditioning, ventilation, elevators and lighting, should create employment prospects for those who install this equipment and connect the systems. New skills are required as a result of increased use of PVC covering and the replacement of old conduits with mineral-insulated and aluminum-covered cable. Knowledge of electricity as well as complementary training in welding, electronics, hydraulics, pneumatics and programmable automatons,

5. EDUCATION AND SKILLS

are in demand. Analytical skills are an asset since electricians must be able to understand building plans and connection diagrams. There is no specific educational requirement for entry to these occupations. However, a secondary vocational course in electrotechnology, construction electrician or maintenance electrician option, is an asset. Construction electricity candidates must register for an apprenticeship and obtain certification from the Ministère de la main d'oeuvre and the Commission de la construction du Québec. Candidates must have completed 8,000 hours of work and an apprenticeship as well as pass a qualifying exam in order to obtain the certificate and attain the status of journeyman. Following the new professional training and qualification program in force since 1987, school training is strongly recommended in order to attain construction electrician apprentice status.

6. SALARY

According to the 1986 census, the average salary of construction electrician and repairers working full time was $28,997.

WIRE COMMUNICATIONS AND RELATED EQUIPMENT INSTALLING AND REPAIRING OCCUPATIONS

8735

Examples: Line Installer, Alarm System Installer, Telephone Electrician, Switchboard Repairer, Telex Installer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
6,300	6,285	-15	605	590

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
295	80	215	-	590

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.7	5.5	Under 25 years	28.2	-	Full-time	98.8	98.7
Males	95.3	94.5	Over 54 years	4.8	-	Part-time	1.2	1.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transp., Comm., & Publ. Util.(71)
- Railway Transport (1)
- Radio and Television Broad. (7)
- Telephone Systems (58)
- Electric Power (5)

Construction Industry (10)
- Other Construction (1)
- Special-trade Contractors (9)

Electrical Prod. Ind. (9)
- Communications Equip. (7)
- Electric Wire and Cable (2)

4. LABOUR MARKET TRENDS

Employment in these occupations is expected to decrease. Job openings will result mainly from attrition of the present labour force. The cable broadcasting network may continue to expand, due to the advent of fibre optics telecommunications. Depending on the extent to which this technology is used and the speed of its integration into existing telecommunications systems and if, in addition, it is applied to commercial and residential sectors, the demand for these specialized technicians may experience a considerable increase. On the other hand, the low level of activity expected in the residential construction sector may limit the demand for installers and repairers of wires working in this industrial sector. Technological advances have had a major impact on the telecommunications sector. Computerized switching systems are widely used and replace the earlier electromechanical switches which needed considerable routine maintenance. Self-diagnostic capability in the event of problems is engineered into the equipment, and the need for maintenance has been considerably reduced. Knowledge of new technologies, such as those related to fibre optics and computers, is an asset. Candidates' ability to upgrade their skills as new technologies are introduced is in demand.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a secondary vocational course in electrotechnology or in home appliances servicing, with specialization in the installation and repair of telecommunications equipment. For alarm system installers, a secondary course in electromechanics of automated systems or in repair and servicing, is preferable. Communications equipment technicians must have a community college diploma in electronics and telecommunications.

6. SALARY

According to the 1986 census, the average salary of installers-repairers of wire communications and related equipment working full time was $32,805.

INSPECTING, TESTING, OCCUPATIONS: ELECTRICAL POWER, LIGHTING AND WIRE COMMUNICATIONS EQUIPMENT ERECTING, INSTALLING AND REPAIRING

8736

Examples: Line Inspector, Telecom Powerline Patroller, Load Checker, Test-table Operator, Switch Inspector

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,645	1,685	40	295	335

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
20	-	-	-	20

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	13.9	19.3	Under 25 years	16.5	-	Full-time	98.1	98.6
Males	86.2	80.7	Over 54 years	9.9	-	Part-time	1.9	1.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transp., Comm., & Publ. Util.(59)
- Radio and Television Broad. (3)
- Telephone Systems (31)
- Electric Power (25)

Construction Industry (3)
- Other Construction (1)
- Special-trade Contractors (2)

Electrical Prod. Ind. (28)
- Communications Equip. (20)
- Electrical Ind. Equip. (2)
- Electric Wire and Cable (5)
- Misc. Electrical Prod. (1)

Gov't Service (3)
- Other Federal Service (1)
- Provincial Service (1)

4. LABOUR MARKET TRENDS

Employment in this occupational group should remain relatively stable. Most job openings will result from attrition of the present labour force. Technological advances have had a negative impact on employment growth in this group. The computerization of switching systems, which makes self-diagnosis of the equipment possible and cuts down on equipment maintenance, together with long-distance diagnosis systems, is likely to reduce the demand for inspectors. Moreover, the dim outlook in the construction sector where electricity needs are great may contribute to a slowdown in employment.

5. EDUCATION AND SKILLS

Workers in these occupations are promoted after several years' experience as installers-repairers of electrical systems. Candidates with a secondary school diploma who have completed a college-level technical program in a field such as electricity, electronics or instrumentation, have an advantage. Owing to rapid technological changes, inspectors must have an ability to upgrade their skills.

6. SALARY

According to the 1986 census, the average salary of workers in these occupations who were employed full time was $33,825.

CARPENTERS AND RELATED OCCUPATIONS

8781

Examples: Carpenter, Joiner, Framer, Wood Tile Layer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
30,125	28,160	-1,965	7,505	5,540

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
8,775	765	-	-	9,540

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.7	1.1	Under 25 years	13.6	-	Full-time	94.8	93.8
Males	99.3	98.9	Over 54 years	19.2	-	Part-time	5.2	6.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (70)
- Building Construction (47)
- Other Construction (1)
- Special-trade Contractors (22)

Education (2)
- Elem. and Sec. School (2)

Wood Industries (5)
- Sash, Door & Other Mill-work Plants (5)

Gov't Service (2)
- Local Gov't Service (2)

Furniture & Fixture Industry (2)
- Household Furniture Man. (2)

4. LABOUR MARKET TRENDS

Employment is expected to decrease in this occupational group. Job openings will result mainly from attrition of the present labour force. Since these occupations are concentrated in construction, they are very sensitive to employment trends in this sector. Residential construction, the main employment area for carpenters, should experience a slowdown under the impact of such factors as the population decline in the 25-34 age group, the largest group of potential home buyers, and the low growth rate of new households. The completion of large industrial construction projects early in the forecast period and the low level of commercial construction activity are factors that could cause the demand for carpenters to decline. Engineering construction work stimulated by the James Bay project could create openings for these workers during the first half of the forecast period. Technological advances involving new building materials and new methods of construction have an adverse effect on the number of carpenters and their tasks. The use of new building materials besides wood, and new construction methods could bring about a drop in the demand for carpenter-joiners. Moreover, prefabrication of various components such as whole wall panels and kitchen cabinets, which significantly cut down on building time,

4. LABOUR MARKET TRENDS (cont')

and the use of other materials besides wood, such as metal frames, may cause job opportunities to decrease and restrict the type of work they can do. The use of reusable sectional formwork for pouring cement could limit the need for these workers and reduce their tasks, which would consist of adjusting and fastening tables in place and building non-standard forms, elevator shafts). The appearance of new specialties, such as installers of interior systems, could limit the tasks of carpenters even further.

5. EDUCATION AND SKILLS

A secondary vocaitonal course in furniture and construction, construction I or construciton carpenter option, is an asset. Candidates wishing to become assistant carpenters must undergo on-the-job training.

6. SALARY

According to the 1986 census, the average salary of carpenters and related workers who were employed full time was $23,918.

BRICK AND STONE MASONS AND TILESETTERS

8782

Examples: Bricklayer, Terrazzo Setter, Brick Setter, Tombstone Setter

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
5,475	5,625	150	905	1,055

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	GRADUATES 1989-2000 COMMUNITY COLLEGE	GRADUATES 1989-2000 UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,570	380	-	-	1,950

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.5	0.5	Under 25 years	12.5	-	Full-time	89.6	96.3
Males	99.5	99.5	Over 54 years	12.3	-	Part-time	10.4	3.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Ind. (84)
- Building Construction (9)
- Special-trade Contractors (75)

Primary Metal Industry (2)
- Iron and Steel Mills (1)
- Smelting and Refining (1)

Paper Industries (2)
- Pulp and Paper Mills (2)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Job openings will result mainly from attrition of the present labour force. Employment trends in these occupations are very sensitive to the outlook in the construction sector. During the forecast period, the activity level in this industry should remain rather low, particularly in residential, commercial and industrial construction. The renovation of existing buildings should help to maintain employment for this group of workers. Opportunities for stone masons are limited owing to the cost of stone as a building material. The outlook for tilesetters is good, since the use of tile in the home, restaurants and offices has increased. Technological changes have very little impact on these occupations.

5. EDUCATION AND SKILLS

There is no specific educational requirement for these occupations. For tilesetters, a secondary vocational diploma in furniture and construction, bricklayer-mason or construction I or II option, is an asset. A professional competency certificate in bricklaying-masonry and an apprentice time card issued by the Commission de la construction du Québec is compulsory.

6. SALARY

According to the 1986 census, the average salary of masons and tilesetters working full time was $25,582.

CONCRETE FINISHING AND RELATED OCCUPATIONS 8783

Examples: Cement Mason, Cement Finisher, Sidewalk Layer, Terrazzo Worker

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,600	1,670	70	280	350

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
455	-	-	-	455

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.3	0.6	Under 25 years	14.1	-	Full-time	90.0	96.4
Males	99.7	99.4	Over 54 years	13.4	-	Part-time	10.0	3.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (67)
- Building Construction (9)
- Hwy., Bridge & Str. Constr.(4)
- Other Construction (7)
- Special-trade Contractors (47)

Non-met. Min. Prod. Ind. (21)
- Cement Man. (6)
- Concrete Prod. Man. (8)
- Ready-Mix Concr. Man. (5)
- Misc. Non-met. Min. Prod. Ind. (2)

Primary Metal Industry (2)
- Smelting and Refining (2)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Cement masons work mainly on non-residential construction projects and in some engineering sectors of the industry. Despite the completion of large industrial construction projects in the aluminum sector, the demand for these workers could be maintained by work on the James Bay hydroelectric project, particularly in the first half of the forecast period. This demand could also be maintained by road repair work. The recent trend toward greater use of concrete construction will tend to increase employment. However, technological changes may curb the positive impact of this trend. The use of prefabricated materials, such as pre-cast concrete components, including concrete pipes and concrete structural elements reducing the amount of construction time required, could adversely affect the need for cement finishers in the construction industry. The use of re-usable moving formwork for pouring cement could also cut the time needed for erecting forms, reducing job opportunities for these workers. The acquisition of practical business skills is a definite asset for those who wish to work as entrepreneurs.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to these occupations but a secondary vocational course in furniture and construction, construction worker option, is an asset. Certification by the Commission de la construction du Québec (CCQ) is compulsory.

6. SALARY

According to the 1986 census, the average salary of cement finishers and related workers who were employed full time was $25,420. According to the Construction Decree of 1987, journeyman earned an average of $17.40 per hour and apprentices, $14.79.

PLASTERERS AND RELATED OCCUPATIONS

8784

Examples: Plasterers, Drywall Installer, Stucco Plasterer, Joint Filler, Lather

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
3,555	4,700	1,145	555	1,700

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
640	-	-	-	640

OTHER IMPORTANT REQUIREMENTS

The use of drywall panels reduces the demand for plasterers.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.6	1.3	Under 25 years	14.0	-	Full-time	90.2	91.8
Males	99.4	98.7	Over 54 years	6.4	-	Part-time	9.8	8.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (91)
- Building Construction (24)
- Special-trade Contractors (67)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. Employment trends in this group depend on activity in the construction industry. Investment in commercial and institutional construction should remain moderate. The residential construction sector is expected to show a decline. However, the renovation of older buildings and new building insulation standards should stimulate the demand for drywall installers. The use of drywall instead of plaster as a finishing material increases the demand for drywall installers and joint fillers, to the detriment of plasterers, the demand for whom is expected to decrease significantly. Certain types of home renovation and special decorative work will continue to require the services of plasterers.

5. EDUCATION AND SKILLS

There is no specific educational requirement for these occupations. However, a secondary vocational course in furniture and construction, construction worker option, is an asset. A professional competency certificate is compulsory to be able to work on construction sites. Accreditation is normally granted upon successful completion of an apprenticeship program. In Quebec, lathers must have a professional competency certificate.

6. SALARY

According to the 1986 census, the average salary of plasterers and related workers who were employed full time was $23,685.

PAINTERS, PAPERHANGERS AND RELATED OCCUPATIONS

8785

Examples: Painter, Paperhanger, Bill Poster

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
8 605	8,340	-265	1,795	1,530

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,330	165	-	-	1,495

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.5	6.0	Under 25 years	18.7	-	Full-time	95.3	92.1
Males	96.5	94.0	Over 54 years	14.3	-	Part-time	4.7	7.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

- Construction Industry (58)
  - Building Construction (6)
  - Special-trade Contractors (52)
- Fin., Ins. & Real Estate (2)
  - Real Estate Operators (2)
- Health and Social Services (4)
  - Hospital Services (3)
  - Related Health-Care Inst. (1)
- Education (2)
  - Elem. and Sec. Schools (2)
- Gov't Service (3)
  - Local Gov't Service (3)
- Personal Services (2)
  - Private Households (2)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to decrease. Job openings will result mainly from attrition of the present labour force. The demand for painters is sensitive to general economic conditions and the outlook in the construction industry in particular. The low level of activity anticipated in the construction industry, particularly the residential sector, should affect the demand for painters working in the maintenance of new buildings. Maintenance of existing buildings and other structures should create a more stable source of employment. New, more efficient ways of applying paint and more durable paints appear to translate into a reduction in the need for painting services. Employment in this occupational group is seasonal since outdoor work is rarely carried out in the winter months.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to these occupations, but a secondary vocational course in furniture and construction, painter and paperhanger option, is an asset. A professional competency certificate is compulsory.

6. SALARY

According to the 1986 census, the average salary of painters, paperhangers and related workers who were employed full time was $22,400.

INSULATING OCCUPATIONS, CONSTRUCTION

8786

Examples: Insulation Installer, Insulation Blower, Asbestos Insulator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,340	1,350	10	185	195

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
230	-	-	-	230

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.6	2.6	Under 25 years	28.4	-	Full-time	91.7	93.2
Males	98.4	97.7	Over 54 years	6.0	-	Part-time	8.3	6.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Ind. (81)
- Building Construction (5)
- Special-trade Contractors (76)

Non-Metallic Min. Prod. Ind. (2)
- Misc. Non-Metallic Min. Prod. (2)

Transportation Equip. Ind. (2)
- Shipbuilding and Repair (2)

Petroleum Prod. Ind. (2)
- Petroleum Refineries (2)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Job openings will result mainly from attrition of the present labour force. During the 1970s, employment in these occupations rose dramatically, due to rising energy prices, government programs for the installation of new insulating materials in older buildings and the raising of insulation standards for new buildings. Since government insulation programs have been discontinued and most older buildings have been equipped with additional insulation, it is not very likely that this group will experience such rapid growth again. However, higher standards of insulation for new buildings should help to maintain job opportunities for these workers. Some technological changes concerning construction methods and building materials could have an adverse effect on the demand for insulating services. Although they are not employed consistently on all building construction sites or even within the same site, new work methods using prefabricated panels already insulated could reduce employment growth for this occupational group as the panels become more popular.

5. EDUCATION AND SKILLS

There is no educational requirement for entry to these occupations. An apprenticeship program is available in Quebec. A professional competency certificate is compulsory. A secondary vocational course in furniture and construction, construction worker option, is an asset. Most beginners in the trade are secondary school graduates.

6. SALARY

According to the 1986 census, the average salary of those working in insulating occupations who were employed full time was $27,774.

ROOFING, WATERPROOFING AND RELATED OCCUPATIONS

8787

Examples: Roofer, Waterproofer, Tar Roofer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,315	3,030	715	260	975

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
985	-	-	-	985

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.9	0.7	Under 25 years	25.1	-	Full-time	91.7	84.0
Males	99.1	99.3	Over 54 years	4.1	-	Part-time	8.3	16.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (93)
- Building Construction (8)
- Special-trade Contractors (85)

Metal Fabricating Industries (2)
- Metal Coating Ind. (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. Roof rebuilding and repair will create a large portion of the work for these workers, making the demand for their services less sensitive to periods of recession. Employers have indicated that they have difficulties recruiting workers since apprentices seem to abandon the occupation before becoming journeymen. Recent technological changes involving new coating materials (liquid, membranes, etc.) and some new processes have had an impact on the tasks of this group. Knowledge of new materials and processes is an asset. Metal roofing will still be used often, especially since solar heating systems require a metal roof. The demand for shingle roofs should remain stable. Clay tiles are rarely used; most buildings with clay tiles are more than 50 years old and this could reduce the demand for tile layers.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to these occupations. A secondary vocational course in roofing is an asset. An apprentice time card or a professional competency certificate is required. A registration certificate issued by the Commission de la construction du Québec is compulsory.

6. SALARY

According to the 1986 census, the average salary of roofing, waterproofing and related workers who were employed full time was $24,576.

PIPEFITTING, PLUMBING AND RELATED OCCUPATIONS

8791

Examples: Plumber, Pipefitter, Steamfitter, Sprinklerfitter, Heating Unit Installer

1. LABOUR MARKET TRENDS FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
12,005	11,015	-990	2,125	1,135

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
1,870	360	55	-	2,285

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.7	0.9	Under 25 years	11.8	-	Full-time	96.3	96.3
Males	99.3	99.1	Over 54 years	11.6	-	Part-time	3.7	3.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (59)
- Building Construction (2)
- Other Construction (2)
- Special-trade Contractors (55)

Paper Industries (6)
- Pulp and Paper Mills (6)

Gov't Service (3)
- Local Gov't Service (3)

Health and Social Services (3)
- Hospitals (3)

Transportation Equip. ind. (2)
- Shipbuilding and Repair (2)

Transportation (2)
- Railway Transport (2)

4. LABOUR MARKET TRENDS

Employment is expected to decrease in this occupational group. Job openings will result mainly from attrition of the present labour force. Labour supply should exceed the number of available openings. Employment in this group depends on activity in the construction sector and is subject to cyclical fluctuations. Investments in industrial and engineering construction, mainly the James Bay project, could create openings for these workers during the first half of the forecast period. However, low activity levels in other construction sectors could bring about a decrease in demand in the second half of the period. Maintenance, which accounts for a large part of the work, is less sensitive to economic conditions. Stronger demand for hygienic appliances such as saunas, whirlpools and bidets, could improve the demand for plumbing services slightly. The growing use of plastic pipes and other materials for the evacuation of acid, corrosive, chemical and bacterial waste, requires a knowledge of new fitting methods. Technological advances appear to have little impact on employment in this group. In general, skills in blueprint reading and welding are in demand.

5. EDUCATION AND SKILLS

There is no specific educational requirement for entry to these occupations, but a secondary vocational course in hydrothermics, plumbing-heating or pipe fitting option, is an asset. Candidates must have completed 8,000 hours of apprenticeship training. The Department of Labour recognizes 2,000 hours for graduates. Graduates must successfully complete the examinations set by the Department in order to obtain the title of junior journeyman. An apprentice time card or a professional competency certificate is required.

6. SALARY

According to the 1986 census, the average salary of pipefitters, plumber and related workers who were employed full time was $28,466.

STRUCTURAL METAL ERECTORS

8793

Examples: Structural Metal Erectors, Construction Ironworker

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,820	1,755	-65	205	140

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
885	65	-	-	950

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.2	0.9	Under 25 years	15.0	-	Full-time	95.3	93.9
Males	98.8	99.1	Over 54 years	7.9	-	Part-time	4.7	6.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (64)
- Building Construction (12)
- Other Construction (11)
- Special-trade Contractors (41)

Metal Fabricating Ind. (15)
- Structural Metal Ind. (8)
- Architectural Metal Ind. (3)
- Wire and Wire Prod. Man. (3)
- Misc. Metal Fabr. Ind. (1)

Wholesale Trade (3)
- Metal Wholesalers, n.e.c. (2)
- Scrap and Waste Materials (1)

Transportation Equip. Ind. (3)
- Shipbuilding and Repair (3)

Transp., Comm. and Other Util. (3)
- Railway Transport (2)
- Electric Power (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Job openings will result mainly from attrition of the present labour force. The labour supply could exceed the demand. Structural metal erectors are employed mainly in the construction industry. Employment in this occupation is sensitive to fluctuations in the construction industry. The number of projects in commercial and institutional construction is expected to remain low and in residential construction, even lower. This situation should cause the demand for these workers to decline. Construction related to hydroelectric resources should create job opportunities. The increasingly frequent use of concrete to replace metal frames could have an adverse effect on employment for this group of workers.

5. EDUCATION AND SKILLS

Entry to the construction ironworker trade is through a compulsory one-year apprenticeship program governed by the province, with no educational requirement. A secondary vocational diploma in sheet metal mechanics is an asset. A registration certificate issued by the Commission de la construction du Québec is required.

6. SALARY

According to the 1986 census, the average salary of structural metal erectors working full time was $26,644.

GLAZIERS

8795

Examples: Glazier, Glass Installer, Windshield Repairer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,085	3,340	1,255	285	1,540

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
270	65	-	-	335

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.5	1.7	Under 25 years	26.8	-	Full-time	99.1	97.7
Males	96.5	98.3	Over 54 years	5.1	-	Part-time	0.9	2.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Construction Industry (36)
- Building Construction (1)
- Special-trade Contractors (35)

Wood Industries (3)
- Sash, Door and Other Millwork Plants (3)

Commerce (32)
- Lumber and Building Mat. (4)
- Motor Vehicle Repair Shops (2)
- Hardware Stores (13)
- Misc. Stores (13)

Metal Fabricating Industries (30)
- Ornamental and Architectural Metal Industry (6)
- Glass and Glass Prod. Man. (12)
- Non-Metallic Min. Prod. Ind. (12)

4. LABOUR MARKET TRENDS

Employment is expected to grow at an above-average rate. Although these occupations are affected by variations in the construction industry, employment is less subject to cyclical fluctuations because glass must be replaced frequently. Employment opportunities may result from the retrofitting of double and triple glazed windows as a measure to increase the energy efficiency of buildings. The new trend in residential construction toward using pre-fabricated glass windows and doors assembled in the factory by glaziers, but installed in buildings by joiners, could decrease the demand for glaziers in this area of construction, to the advantage of those who work in factories. Nonetheless, the construction sector accounts for 36% of glaziers' jobs, followed by the wholesale and retail trade sectors and the manufacturing industry.

5. EDUCATION AND SKILLS

Entry to these occupations is through a compulsory apprenticeship program governed by the province. A professional competency certificate issued by the parity committee of flat glass industry is compulsory. A secondary vocational diploma in glass mechanics and assembly is an asset.

6. SALARY

According to the 1986 census, the average salary of glaziers working full time was $21,739.

AIR PILOTS, NAVIGATORS AND FLIGHT ENGINEERS

9111

Examples: Commercial Pilot, Helicopter Pilot, Aircraft Captain, Flight Engineer, Aerial Crop Duster Pilot, Test Pilot - Air Transport

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,295	1,280	-15	100	85

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
225	-	175	80	480

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	3.6	2.0	Under 25 years	18.4	-	Full-time	97.9	98.4
Males	96.4	98.0	Over 54 years	1.6	-	Part-time	2.1	1.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (84)
- Air Transport (76)
- Misc. Serv. Inc. to Transport (8)

Forestry (2)
- Logging (1)
- Forestry Services (1)

Transportation Equip. Ind. (3)
- Aircraft & Aircraft Parts (3)

Gov't Service (2)
- Provincial Service (2)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Jobs will be created mainly through attrition of the present labour force. With deregulation of air transport, despite the emergence of a number of commercial carriers, there has been a wave of mergers and acquisitions which should continue over the next few years. This should have an impact on the demand for pilots. In the short term, several factors will affect the aviation sector. Air transport activities depend on the economic growth rate. Travel consumption is very sensitive to the economic climate. The forecast economic slowdown should bring about a weaker growth in this type of spending. In the long term, the demand for air services is expected to grow and the requirement for pilots to increase. For helicopter pilots, a turbine helicopter endorsement is essential. There are always openings in instructing and dusting. The computerization of piloting makes the pilot's work easier. Flight management in certain types of airplanes determines the most direct and most efficient flight route, from take-off to landing.

5. EDUCATION AND SKILLS

Entry to these occupations requires a commercial pilot's license. There are various ways of obtaining a license. One way requires a community college diploma in aeronautics with a concentration in piloting. Another requires successful completion of a training program at a recognized flying club or school. A pilot's license is compulsory, and college graduates receive it automatically. Depending on the specialty, candidates must have the following licenses: commercial pilot license, multi-engine aircraft rating, current Class 1 flight instrument rating, Canadian radio-telephone restricted certificate, air pilot license. Small companies usually require only the minimum licenses specified by the Ministère du transport. Candidates must undergo a medical examination and take a sight test. On-the-job training is necessary. Pilots must retrain when they wish to fly a different type of aircraft. Pilots usually start as co-pilots for the smaller aviation companies and gradually progress toward aircraft captain's positions in the larger companies. Air pilots are being increasingly trained by means of computer-aided simulation techniques. Bilingualism is an asset.

6. SALARY

According to the 1986 census, the average salary of air pilots, navigators and flight engineers was $57,110.

AIR TRANSPORT OPERATING SUPPORT OCCUPATIONS

9113

Examples: Ramp Agent, Air-Traffic Controller, Air-Traffic Co-ordinator, Airline-Radio Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
810	730	-80	95	15

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000 SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	TOTAL LABOUR SUPPLY 1989-2000
40	-	-	-	40

OTHER IMPORTANT REQUIREMENTS

Computer control of air traffic has had an impact on the tasks of these workers.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	8.6	12.0	Under 25 years	-	-	Full-time	-	96.2
Males	91.4	88.0	Over 54 years	-	-	Part-time	-	3.8

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (85)
- Air Transport (52)
- Serv. Inc. to Air Transport (31)
- Misc. Serv. Incidental to Transport (2)

Wholesale Trade (2)
- Petroleum Prod. (2)

Gov't Service (5)
- Other Federal Service (1)

Transportation Equip. Ind. (3)
- Small Electrical Appliances (3)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Jobs will be created mainly through attrition of the present labour force. Employment in these occupations is very sensitive to the economic climate and to changes made to transportation policies and regulations, particularly air transport. Computerized air-traffic control has had an impact on the demand for air-traffic controllers and their tasks. With the new technologies, the capacity for control has improved vastly. At present, flight plans are prepared partly by assistant controllers, but these tasks should all be computerized soon. Two controllers are needed for each air zone visible on radar, one to talk to the pilot and another to co-ordinate the airplane's flight. The gradual implementation of radio-text technology could eliminate verbal communication between the pilot, the co-pilot and the controllers since all necessary information will be communicated automatically from the control tower to the aircraft. Automation of landing operations with the micro-wave landing system (MLS) could cause the number of landings to increase by

4. LABOUR MARKET TRENDS (cont'd)

decreasing air waiting time. The trend toward computerizing all the routine air control monitoring tasks could increase safety by ensuring ongoing monitoring. The computerization of data-gathering centres could accelerate the information distribution to the control towers. The introduction of these new technologies should be gradual, particularly since some of them are not yet at the implementation stage. In the long term, they could affect the tasks of air support personnel. Air-traffic controllers must be mobile since they are subject to inter-regional transfers. A normal career path for an air-traffic controller consists in going from less important towers to more complex units.

5. EDUCATION AND SKILLS

Entry to the occupation of air-traffic controller is made easier with a community college diploma in air-traffic control. Possession of a permit issued by Transport Canada is necessary. Air-traffic controllers receive their certificate from an airline. Bilingualism is required. The Training Institute of Transport Canada administers a program for controllers and flight services specialists. Candidates must undergo a medical examination of their sight and hearing each year.

6. SALARY

According to the 1986 census, the average salary of air transport support personnel working full time was $33,255.

LOCOMOTIVE ENGINEERS AND FIREMEN

9131

Examples: Locomotive Engineer, Industrial Locomotive Operator, Diesel Locomotive Engineer, Yard Engineer, Outside Hostler

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,375	1,285	-90	325	235

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
30	-	-	-	30

OTHER IMPORTANT REQUIREMENTS

The general employment cutback policy of railway companies may limit job opportunities in these occupations.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.8	2.4	Under 25 years	11.1	-	Full-time	98.8	99.1
Males	98.2	97.6	Over 54 years	19.8	-	Part-time	1.2	0.9

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (85)
- Railway Transport (83)
- Urban Transit Systems (2)

Mines (5)
- Iron Mines (5)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. Jobs will be created mainly through attrition of the present labour force. Most locomotive mechanics and engineers work in the rail transport sector and employment prospects in these occupations depend on the outlook in this sector. Most railway companies have adopted a general cutback policy applying to all jobs in all departments which should affect both locomotive mechanics and engineers. This policy is a result of decreased traffic and competition from other modes of transportation. The new technologies have also had an impact on the demand for locomotive engineers. Among the technological advances are intermodal transport services, computerized reading systems for distances and switching operations as well as electronic inspection and diagnostic devices in the engineer's cabin.

5. EDUCATION AND SKILLS

Entry to these occupations requires a secondary school diploma. Before undertaking training as a locomotive engineer, candidates are required to have 28 to 36 months of job experience as a trainmen/women, brakemen/women, switchman/woman, or assistant diesel motor mechanic. Candidates must complete an eight-week program of studies at the Gimley training center in Manitoba. On-the-job training is then required.

6. SALARY

According to the 1986 census, the average salary of locomotive engineers working full time was $34,037.

DECK OFFICERS

9151

Examples: Ship's Captain, Marine Pilot, Deck Officer, Tugboat Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
955	870	-85	245	160

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
165	-	65	-	230

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%) :

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.4	2.2	Under 25 years	8.9	-	Full-time	97.6	100.0
Males	97.6	97.8	Over 54 years	16.9	-	Part-time	2.4	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (72)
- Water Transport (45)
- Serv. Inc. to Water Trans. (23)
- Other Transport (4)

Gov't Service (6)
- Other Federal Service (4)
- Provincial Service (2)

Education (5)
- Educ. & Rel. Serv., n.e.c. (5)

Construction Ind. (3)
- Other Construction (3)

Fin., Ins. & Real Estate ((2)
- Insurance Carriers (2)

Misc. Services (2)
- Labour Org. & Trade Ass. (2)

4. LABOUR MARKET TRENDS

Employment is expected to decrease in this occupational group. Job openings will result mainly from attrition of the present labour force. Since these occupations are concentrated mainly in the water transport sector, the level of employment varies with market fluctuations. Seasonal factors are also important; the number of job opportunities peaks during summer and fall. Job openings are limited geographically to the Great Lakes, Canadian coastal areas and the St Lawrence Seaway. Within the offshore marine industry, however, turnover rates are low as qualified deck officers are reluctant to change their careers. In general there are few openings at the rank of third mate, but there is a demand for candidates at a higher rank. Knowledge of marine charts, piloting, navigation, meteorology, ship management, naval construction, ship mechanics as well as handling work is essential. Knowledge of first aid is required. Mobility is essential since workers in this group must travel for long periods of time. Work hours are long and irregular.

5. EDUCATION AND SKILLS

The minimum requirement for entry to these occupation is completion of secondary school. Deck officers must have at least a watchkeeper's certificate which may be obtained by completing a three-year cadet program offered by an accredited navigation school or with a minimum of 24 months of experience as member of a deck team. Aspiring deck officers must then pass the examination set by Transport Canada, which leads to a watchkeeper's certificate. A community college diploma is required to obtain remission of sea time from the Department of Transport. A college diploma in marine technology is an asset. Graduates are eligible for a second mate's certificate and may obtain some credits toward being eligible to write the captain's examination. Certification is compulsory, and ship's commanders are certified according to type of vessel and waters they sail in. For ferry boat deck officers, minimum accreditation consists of the ferryboat and steamboat first mate's certificate.

6. SALARY

According to the 1986 census, the average salary of deck officers working full time was $41,434.

ENGINEERS OFFICERS, SHIP

9153

Examples: Chief Marine Engineer, Diesel Engineer Officer, Engineer Officer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
625	650	25	105	130

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
100	-	-	-	100

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	0.0	4.6	Under 25 years	14.0	-	Full-time	97.1	100.0
Males	100.0	95.4	Over 54 years	19.6	-	Part-time	2.9	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (68)
- Water Transport (44)
- Serv. Inc. to Water Trans. (22)
- Other Truck Transport (2)

Transportation Equipment Ind. (11)
- Shipbuilding and Repair (9)
- Boatbuilding and Repair (2)

Business Services (4)
- Eng. and Scient. Services (2)
- Mgmt. Consulting Off. (2)

Gov't Service (4)
- Other Federal Service (2)
- Provincial Service (2)

Misc. Services (3)
- Misc. Repair Shops (3)

Machinery Industries (2)
- Misc. Machinery and Equip. (2)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Jobs are concentrated mainly in the water transport sector, and are therefore very sensitive to market fluctuations. Though technological changes facilitate the tasks of ship mechanics, they appear to have little effect on the level of employment. The constant improvement in reliability and performance of semiconductor navigational equipment will continue to limit navigational systems and material maintenance operations and reduce the number of necessary routine checks. Knowledge of thermodynamics, electrotechnology, naval stability and construction, naval mechanics principles, internal combustion marine vessels and steam vessels is essential.

5. EDUCATIONAL AND SKILLS

There are number of ways to enter these occupations: a college diploma in marine technology with a concentration in marine mechanics, or approximately four years' experience as a machinist in a firm specializing in ship engines, or three or four years' experience as a machine operator (oiler and greaser, assistant fireman-engineer or engineer on a ship, or a watch engineer on a Canadian Forces vessel). Certification by the Canadian Coast Guard is compulsory. There are four classes of certificates. The new safety standards adopted by the industry require additional training. Technical training at the École de technologie supérieure provides entry to jobs on land.

6. SALARY

According to the 1986 census, the average salary of ship engineering officers working full time was $37,741.

BUS DRIVERS

9171

Examples: School Bus Driver, Bus Driver

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
12,750	12,330	-420	3,085	2,665

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
1,715	-	-	-	1,715

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	16.0	16.1	Under 25 years	5.6	-	Full-time	97.0	95.7
Males	84.0	83.9	Over 54 years	16.7	-	Part-time	3.0	4.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (92)
- Interurban and Rural (7)
- Urban Transit Systems (7)
- Other Transportation (48)

Education (3)
- Elem. and Sec. Schools (3)

Gov't Service (1)
- Local Gov't Service (1)

4. LABOUR MARKET TRENDS

This occupational group is expected to lose jobs. However, the openings created through attrition of the present labour force should offset the loss of employment. Employment in this group is highly concentrated in the transportation sector, and is thus sensitive to factors affecting this sector. The demand for bus drivers is related to the number of passengers and government budget constraints. However, the demand for long-distance, inter-city bus transport is relatively insensitive to swings in the economy, resulting in steady demand for bus drivers of this type. Technical advances have had few significant effects on these occupations, as bus drivers cannot be replaced with machines. The growing demand for chartered transportation will continue to have an impact on employment, particularly for school bus drivers who often work on a part-time basis. Beginners work shifts and are often required to work broken shifts.

5. EDUCATION AND SKILLS

There is no particular educational requirement for this occupation. Successful completion of a defensive driving course in an asset. A Class 11 driver's license issued by the Quebec Automobile Insurance Board is required. Two weeks of on-the-job training under the supervision of an experienced operator is required.

6. SALARY

According to the 1986 census, the average salary of bus drivers working full time was $26,685.

TRUCK DRIVERS

9175

Examples: Armoured Car Driver, Automobile Transport Driver, Oil Truck Driver, Milk Hauler, Delivery Driver

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
63,230	63,755	525	8,455	8,980

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
10,580	930	45	-	11, 555

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	1.0	1.4	Under 25 years	19.4	-	Full-time	96.4	95.3
Males	99.0	98.6	Over 54 years	8.1	-	Part-time	3.6	4.7

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation (33)
- Moving and Storage (1)
- Other Truck Transport (30)
- Highway & Bridge Maint. (2)

Wholesale Trade (9)
- Petroleum Products (2)
- Food (3)
- Lumber and Building Mat. (3)
- Wholesalers, n.e.c. (1)

Retail Trade (5)
- Food (3)
- Furniture (2)

Construction Industry (4)
- Highway, Bridge Constr. (1)
- Special-trade Contractors (3)

Accommodation and Food Serv. (3)
- Restaurants (3)

Gov't Service (3)
- Local Gov't Service (3)

Food and Beverage Ind. (3)
- Beverage Ind. (3)

Forestry (1)
- Logging (1)

Wood Industries (1)
- Sawmills (1)

Non-metallic Mineral Prod. Ind. (1)
- Ready-Mix Concrete Man. (1)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Job openings will result mainly from attrition of the present labour force. With ongoing deregulation in the road transport sector, trucking companies may face stronger competition from American trucking companies and other modes of transport such as the railways. Deregulation of transportation appears to have slowed down the growth of the trucking industry over the last decade. The wave of transport company mergers and the disappearance of the smaller companies may continue, but at a slower rate than that experienced in recent years. Deregulation of road transport has brought about market changes. Road transport companies are increasingly specializing in the transportation of specific products, for instance, pharmaceutical products, bulk products, newspapers, etc. Specialization is becoming an

4. LABOUR MARKET TRENDS (cont'd)

asset from a competitive standpoint and could have an impact on the skills required of truck drivers as well as check the current mobility of drivers between different types of carriers.

Technological changes mainly involve improvements to existing equipment. The use of extended trailers and road trains, which consist of two or three trailers attached one behind the other, is gradually gaining ground. The appearance of these new technologies has not yet had an effect on the number of truck drivers, who depend for the most part on the demand for transportation. Though not widely used at present, the tachometer may, in the long term, replace the road log which is now part of truck drivers' tasks. The introduction of dashboard electronics, though little used at the present time, may increase the number of management tasks that truck drivers must carry out. This equipment ranges from the road log recorder to the computer with keyboard, screen and printer. Since some truck drivers may be required to send and receive messages, they will have to be familiar with microcomputers.

The labour supply should exceed the expected demand. However, shortages of qualified, competent truck drivers could occur in some of the industry's subsectors. In Canada, most truck drivers work for carrier companies rather than being self-employed. Self-employed truck drivers who own their vehicle are the most difficult for companies to recruit. There are shortages of qualified truck drivers since the driving skills sought by employers often exceed the qualifications required for a Class A driver's license. Because of the increased importance placed on road safety, including vehicle inspection and handling of hazardous materials, knowledge of health and safety guidelines is an asset for aspiring truck drivers. Regulations concerning road safety will increase the quantity and complexity of the forms that have to be completed by truck drivers. Because of the competitive nature of transportation services, companies are looking for truck drivers who are capable of maintaining a good rapport with their clients.

5. EDUCATION AND SKILLS

To become truck drivers candidates must be at least 18 years of age and have a valid driver's license. Entry to the occupation of heavy truck driver requires a minimum of ten years' schooling. Successful completion of a defensive driving course or trucker training program is an asset. A Class 21 or 22 driver's license is required. A novice trucker often drives a van before going on to larger vehicles. Van drivers must have nine years' schooling and a Class 41 or 42 driver's license. One means of entering the occupation is to begin as a loader or driver helper.

6. SALARY

According to the 1986 census, the average salary of truck drivers working full time was $22,931. The salary scale varies for truckers. In general, drivers of articulated vehicles earned more than drivers of single trucks, drivers with more seniority and drivers of special vehicles. The type of itinerary also affects income.

TYPESETTING AND COMPOSING OCCUPATIONS

9511

Examples: Typesetter (Printing and Publishing), Compositor, Typesetter (Photocomposition), Linotype Operator, Scanner Reader Machine Operator, Computer-Assisted Compositor

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1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
2,260	1,680	-580	380	-200

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
180	140	40	-	360

OTHER IMPORTANT REQUIREMENTS

The traditional occupation of typographer has almost disappeared.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	-	44.1	Under 25 years	-	-	Full-time	-	94.4
Males	-	55.9	Over 54 years	-	-	Part-time	-	5.6

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Printing, Publishing and Allied Industries (82)
- Commercial Printing (33)
- Platemaking, Typesetting and Trade Bindery Industry (22)
- Publishing (4)
- Printing and Publishing (23)

Business Services (5)
- Advertising Services (5)

4. LABOUR MARKET TRENDS

Forecasts indicate that employment for this occupational group will drop substantially. Job openings will essentially be created through attrition of the present labour force and are not expected to offset the expected loss of jobs. The decline in employment opportunities for typographers is not a recent phenomenon and is mainly linked to the new advanced technologies being used in the printing industry. The traditional occupation of typographer has almost disappeared with the advent of offset printing. New typographic tasks require a knowledge of computers. Microcomputer technology has made in-house desktop publishing possible. This new technology allows companies to create communications documents, forms, business cards, etc., without recourse to an outside service. Electronic printing means that a document no longer needs to be sent out for photocomposition, graphics or page make-up. Page make-up software makes it possible to produce a final product, and laser printers are used for small printing jobs. New printing markets are opening up, particularly in the area of business communications

4. LABOUR MARKET TRENDS (cont'd)

for internal use, instruction and user's manuals, news bulletins and mailing and telephone lists. Most of the work done through desktop publishing is opening up new markets since this work was not necessarily being done by printing companies, mainly because of the high costs involved. These new markets may increase the job prospects for those with a basic knowledge of typography. Though this type of printing does not call for the skills of a typographer as such, it does require a knowledge of typography and photocomposition. Candidates with this basic knowledge as well as a working knowledge of microcomputers have a valuable advantage for jobs in these new areas of printing.

5. EDUCATION AND SKILLS

Entry to this occupation requires a community college diploma in typography-composition. A five-year apprenticeship is mandatory. A secondary level course in photocomposition may also be acceptable.

6. SALARY

According to the 1986 census, the average salary of typographers working full time was $24,858.

PRINTING PRESS OCCUPATIONS

9512

Examples: Press Operator, Offset Press Operator, Platen Press Operator, Flexographic Press Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
7,925	8,475	550	985	1,535

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
630	605	90	0	1,325

OTHER IMPORTANT REQUIREMENTS

Increasingly specific qualifications are in demand.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.4	10.1	Under 25 year	28.6	-	Full-time	98.2	96.6
Males	90.6	89.9	Over 54 years	5.9	-	Part-time	1.8	3.4

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Printing and Publishing (77)
- Commercial Printing (67)
- Platemaking, Typesetting and Trade Bindery (2)
- Printing and Publishing (8)

Education (5)
- Elem. and Sec. Schools (3)
- Postsecondary Education (1)
- Universities and Colleges (1)

Paper Industry (3)
- Paper Boxes and Bags (2)
- Misc. Paper Converters (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. About 1,500 press operators are needed to fill new jobs and to fill existing jobs vacated through attrition. Job prospects in this occupational group depend on the outlook in the printing and publishing sectors. Employment trends will differ within printing press occupations. Moderate growth is expected for lithographic press operators as offset lithography is now the main process used in the commercial printing industry. The growth of flexographic printing used in the production of flexible packaging and for imprinting is expected to be moderate. But as the process continues to be refined it could become more competitive with lithography. Employment growth in lithography may therefore be limited. Copper-plate or rotogravure printing is expected to grow. The relative stability of employment depends on the constant demand for printed matter. Competition from the electronic media has not slowed down the increase in the demand for printed media, particularly specialized magazines.

4. LABOUR MARKET TRENDS (cont'd)

Other factors will have a positive effect on the level of printing activity, i.e. the growing importance of products linked to advertising in commercial printing, the creation of new products through holography and four-colour process printing and the spread of direct mail. Computer technology has also given rise to new needs with regard to publications, magazines and books for users of personal computers. All of these considerations may widen the printing market and create new job openings for press operators. However, certain factors, such as the possible levelling off of the demand for specialized magazines, the emergence of desktop publishing which could absorb part of the printing market and the transmission and storage of information via electronic means could limit the growth of the printing market and the demand for press operators. Technological change will gradually alter the role of the press operator. The computerization of presses has reduced the time/work required for press start-up, control and adjustment of coloured inks. The use of colour presses with electronic components, the ability to differentiate colours and a knowledge of electronics are essential for press operators. The ability to read English-language press operation manuals and the ability to transmit this information to others are in demand, all the more so since press operators are required to supervise the personnel working for them. Increasingly specific qualifications are required of press operators. Candidates with a knowledge of advanced technologies are very much in demand. The implementation of computer-controlled presses and the use of high-speed rotary presses means that candidates must be able to make quick decisions about adjustments that will improve production quality. Since the press operator trade is based on a hierarchy, employees must graduate through several levels before becoming head press operator. The trend in Quebec companies is to hire a labourer or "floor person" who will become assistant press operator and then press operator. In general, from six to ten years of practical experience are required to become a press operator.

5. EDUCATION AND SKILLS

Entry to this occupation requires either a community college diploma in printing or in offset and automatic platen printing or a secondary vocational course. A five-year apprenticeship is mandatory. Practical experience is more important than a diploma.

6. SALARY

According to the 1986 census, the average salary of printing press operators working full time was $24,922.

PHOTOENGRAVING AND RELATED OCCUPATIONS

9515

Examples: Laser Beam Colour Scanner Operator, Stripper, Electrostatic Camera Operator, Print Transferer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
935	1,010	75	150	225

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
110	145	35	0	290

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	13.4	16.6	Under 25 years	17.2	-	Full-time	95.5	100.0
Males	86.6	83.4	Over 54 years	7.0	-	Part-time	4.5	0.0

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Printing and Publishing (87)
- Commercial Printing (53)
- Platemaking, Typesetting and Trade Bindery (19)
- Publishing Only (4)
- Printing and Publishing (11)

Business Services (4)
- Advertising Services (3)
- Misc. Business Services (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a below-average rate. About 225 jobs will open up during the forecast period, two-thirds of which will be created through attrition. The employment outlook for this occupational group will depend on the outlook in the printing and publishing sectors. There has been a shift away from photocomposition in the printing industry. However, preparatory printing tasks involving photoengravers should continue to be required by companies. The continuing shift toward offset printing from letterpress will limit chances for employment of photoengravers specialized in the letterpress process. Technological changes have made it necessary for workers to retrain for certain stages of the photoengraving process. The application of laser technology could provide opportunities for photoengravers, though the operation of some very advanced equipment, such as the laser beam scanner, requires a cameraperson. A training period with the manufacturer, often outside the country, followed by another training period with the manufacturer's representative in the country, is often required by employers.

4. LABOUR MARKET TRENDS (cont'd)

Moderate employment growth is expected for electronic pre-press technicians who operate computer-controlled devices capable of executing complex stripping and retouching functions in four colours. Photoengravers are often required to work evenings and overtime.

5. EDUCATION AND SKILLS

Entry to this occupation requires either a secondary vocational course in printing, letterpress option, or a community college diploma in graphic communications with a concentration in photolithography. Experience acquired during training is an asset. A five-year apprenticeship is mandatory.

6. SALARY

According to the 1986 census, the average salary of photoengravers and related workers employed full time was $27,389.

POWER STATION OPERATORS

9531

Examples: Diesel Plant Operator, Generation Station Operator, Hydro Operator, Nuclear Reactor Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,105	990	-115	190	75

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
20	-	-	-	20

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	4.3	3.4	Under 25 years	16.7	-	Full-time	100.0	97.7
Males	96.7	96.6	Over 54 years	14.9	-	Part-time	0.0	2.3

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Trans., Comm. & Public Util. (73)
- Telephone Systems (3)
- Electric Power (70)

Paper and Allied Industries (2)
- Pulp and Paper Mills (2)

Construction Industry (6)
- Other Construction (4)
- Special-trade Contractors (2)

Primary Metal Industry (3)
- Smelting and Refining (3)

4. LABOUR MARKET TRENDS

Employment is expected to decrease in this occupational group. Job openings will result mainly from attrition of the present labour force. Employment for generation station operators is concentrated in the electricity production sector, and partly depends on foreign demand for electric power. Strong American demand for this type of energy could maintain job prospects for generation station operators. In the long term, job opportunities could decline if foreign demand for electricity decreases. The wider use of telemetering instruments, automation and centralized equipment could limit job opportunities. A number of jobs such as generator switchboard operator, diesel plant operator, computer operator and power control room operator could be performed by second class stationary engineers. Similarly, monitoring of feeder-circuit switching could be performed by third class stationary engineers. Consequently, competition for station operators could remain very brisk.

5. EDUCATION AND SKILLS

Entry to these occupations usually requires a secondary school diploma including mathematics and physics. Computer courses are an advantage. Station operators must have technical skills and be familiar with safety measures. A community college diploma in pure and applied sciences or in physical technology is an asset for nuclear reactor operators. It takes about ten years of on-the-job training and specialized studies with examinations to become a first class operator.

6. SALARY

According to the 1986 census, the average salary of generation station operators working full time was $41,326.

STATIONARY ENGINE AND UTILITIES EQUIPMENT OPERATING AND RELATED OCCUPATIONS, N.E.C. (PLUS WATER AND SANITATION UTILITIES EQUIPMENT OPERATING OCCUPATIONS (9535))

9539

Examples: Cooling System Operator, Dam Attendant, Incinerator Operator, Purification Plant Operator, Boiler Operator

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
9 115	9,370	255	2,075	2,330

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
495	470	5	-	970

OTHER IMPORTANT REQUIREMENTS

The introduction of technological changes affects the demand for this group.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	2.1	3.0	Under 25 years	16.0	-	Full-time	98.4	97.8
Males	97.8	97.0	Over 54 years	16.4	-	Part-time	1.6	2.2

3. MAINS SECTORS PROVIDING EMPLOYMENT (1986 %)

Electric Power, Gas & Water (10)
- Electric Power (3)
- Water Distribution (5)
- Other Public Util. (2)

Health and Social Services (5)
- Hospitals (5)

Retail Trade (4)
- Gasoline Service Stations (4)

Primary Metal Industry (1)
- Smelting and Refining (1)

Gov't Service (9)
- Defence Services (1)
- Other Federal Service (2)
- Provincial Service (1)
- Local Gov't Service (5)

Construction Industry (4)
- Other Construction (1)
- Special-trade Contractors (3)

Food and Beverage Industry (2)
- Dairy Industry (1)
- Beverages (1)

Petroleum Ind. (1)
- Petroleum Refineries (1)

Paper and Allied Industries (8)
- Pulp and Paper Mills (8)

Wood Industry (4)
- Sawmills (3)
- Misc. Wood Ind. (1)

Textile Industries (2)
- Cotton Yarn and Cloth Mills (1)
- Misc. Textile Ind. (1)

4. LABOUR MARKET TRENDS

Employment in this occupational group is expected to remain relatively stable. Most of the job openings will result from attrition of the present labour force. The demand for mechanics' services is affected by the

4. LABOUR MARKET TRENDS (cont'd)

introduction of technological changes. The growing use of central control panels and closed-circuit television reduces the need for tending the equipment directly. Automatic control systems, valve regulators and other devices are replacing manual controls. Stationary machines, water and waste treatment equipment and pumping and pipeline equipment are increasingly being operated from a central control panel. All of these technological improvements limit job opportunities in this group. However, the work of stationary machine mechanics is becoming more complex. Knowledge in electricity and instrumentation is necessary, in addition to a knowledge of mechanical engineering. Since 1978, the Quebec government's water purification program has stimulated employment for water and sanitation equipment operators. However, recent restrictions on these projects that could stop the construction of new plants may considerably limit job opportunities in this sector. There are several water treatment operating techniques. Of these, the aerated pond technique is the most widely used. In this type of plant, workers have other responsibilities in addition to the specialized tasks required to operate the plant. In physical-chemical plants, tasks are more specialized.

5. EDUCATION AND SKILLS

Many of these workers have a post-secondary degree. They must undertake on-the-job training and pass a written examination to obtain a fourth-class certificate. To obtain third-, second- and first-class certificates, more advanced on-the-job training and additional examinations are necessary. Candidates may enter water treatment plant operator's positions with a secondary school diploma. The Paul-Gérin Lajoie secondary school in Vaudreuil offers specialized training in this field. A community college diploma in water purification also provides a means of entry to these occupations.

6. SALARY

According to the 1986 census, the average salary of stationary engine and utilities equipment mechanics and related workers employed full time was $27,825.

RADIO AND TELEVISION BROADCASTING EQUIPMENT OPERATORS

9551

Examples: Studio Control Operator, Switcher, Radio and Television Operator, Sound Person

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,385	1,445	65	155	220

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
20	0	35	0	55

OTHER IMPORTANT REQUIREMENTS

These occupations will be affected by budget cuts and new technologies.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	19.7	7.6	Under 25 years	31.1	-	Full-time	95.2	97.9
Males	80.3	92.4	Over 54 years	37.9	-	Part-time	4.8	2.1

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Transportation, Communication, and Other Utilities (69)
- Radio and Television Broadcasting (50)
- Telephone Systems (15)
- Telegraph and Cable Systems (2)
- Electric Power (2)

Amusement & Recreation Serv. (2)
- Film Production and Distribution (2)

Gov't Service (11)
- Defence Services (4)
- Other Federal Service (4)
- Provincial Service (2)
- Local Gov't Service (1)

Business Services (2)
- Computer Services (2)

Electrical Prod. Ind. (6)
- Radio and Television Receivers (1)
- Communications Equip. (4)
- Electric Wire and Cable (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate well below the average. The employment outlook for these operators is dim owing to increased budget cuts. With respect to television broadcasting, switching operations are tending to become automated and computerized. The operator's role is shifting toward the supervision of the video cassette production and supply process. The automation of production activities could result in decreased demand for personnel assigned to these tasks. The introduction of new equipment, such as cameras and videos and video cassette recorders has changed the nature of sound and picture recording and editing and could diminish the demand for sound persons. As several generations of camera equipment are being used simultaneously in television studios, a knowledge of new camera techniques in addition to the more traditional ones is a definite asset for operators.

4. LABOUR MARKET TRENDS (cont'd)

With respect to radio broadcasting, technological changes should facilitate the tasks of control operators, who will remain in charge of switching tasks which are only partially supported by the new technologies. As program broadcasting at certain times of the day becomes more automated, job opportunities for these operators could diminish, especially for night broadcasting. New technologies have many different consequences on employment. Teledistribution techniques and the use of video cassette recorders and videocassette players will help to create a certain amount of jobs, while increased automation could eliminate other jobs.

5. EDUCATION AND SKILLS

A community college diploma with a concentration in electronics is an asset to transmitting technicians and master control operators, while a concentration in audio-visual equipment helps switchers and picture controllers.

6. SALARY

The salaries of these professionals are negotiated collectively by the National Association of Broadcasting Employees and Technicians (NABET), which represents about 4,950 employees and freelancers in Canada. The hourly rates earned by freelance technicians and operators in January 1986 are as follows: postproduction mixing technicians, $24.50; assistant sound/boom technicians, $20.50; sound editors (headlines), $24.50; switchers, $20.50; video control operators, $20.50; videotape editors (production), $22.50; and telecine operators, $19.50.

According to the 1986 census, the average salary of radio and television broadcasting equipment operators working full time was $32,474.

SOUND AND VIDEO RECORDING AND REPRODUCTION EQUIPMENT OPERATORS

9555

Examples: Sound Editor, Studio Technician, Dubbing Machine Operator, Sound-effects Engineer, Recording Engineer

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
770	940	170	75	245

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
85	0	105	0	190

OTHER IMPORTANT REQUIREMENTS

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	AGE	1981	1986	STATUS	1981	1986
Females	9.2	13.4	Under 25 years	23.6	-	Full-time	97.3	96.8
Males	90.8	86.6	Over 54 years	5.2	-	Part-time	2.7	3.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Communications (36)
- Radio and Television Broadcasting (35)
- Telephone Systems (1)

Gov't Service (7)
- Other Federal Service (3)
- Provincial Service (3)
- Local Gov't Service (1)

Amusement and Recreation Serv. (33)
- Movie Theatres (3)
- Film Prod. and Distr. (24)
- Theatrical Services (5)
- Misc. Services (1)

Education (7)
- Elem. and Sec. Schools (3)
- Universities and Colleges (1)
- Libraries and Museums (1)

4. LABOUR MARKET TRENDS

Employment is expected to grow at a rate slightly above the average. However, very few jobs will be created (about 245). The trend toward greater automation could have an adverse effect on employment growth. The widespread use of video cameras which capture images and sound simultaneously could slow down the demand for sound technicians. In computer-assisted imaging, it is the machine that duplicates the images and sound, with the operator providing the editing parameters. Thus, the requirement for editors could diminish. The advent of stereophonics has changed the type of equipment being used. In the medium term, this mode of broadcasting should not affect employment opportunities for operators of this type of equipment since the conversion to stereophonics is expected to take place gradually because of the costs involved.

5. EDUCATION AND SKILLS

Entry into these occupations generally requires a community college diploma in electronics with a concentration in audio-visual equipment. For sound and video recording engineers, a diploma in communications with a concentration in media arts and technology is an asset.

6. SALARY

The salaries of these professionals are negotiated collectively by the National Association of Broadcasting Employees and Technicians (NABET), which represents about 4,950 employees and freelances in Canada. The hourly rates earned by freelance technicians and operators in January 1986 are as follows: postproduction mixing technicians, $24.50; assistant sound/boom technicians, $20.50; sound editors (headlines), $24.50; switchers, $20.50; video control operators, $20.50; videotape editors (production), $22.50; and telecine operators, $19.50.

According to the 1986 census, the average salary of employees working full time was $28,717.

PHOTOGRAPHY LABORATORY WORKERS

9591

Examples: Photo Enlarger, Negative Cutter, Photo Finisher, Film Cutter, Photo Lab Worker

1. LABOUR MARKET FROM 1989 TO 2000

JOB OPENINGS

NEW JOB OPENINGS			JOB OPENINGS DUE TO	TOTAL JOB OPENINGS
JOBS 1989	JOBS 2000	CHANGES 1989-2000	ATTRITION 1989-2000	1989-2000
1,595	1,390	-205	255	50

LABOUR SUPPLY

ESTIMATED UNEMPL. 1989	GRADUATES 1989-2000			TOTAL LABOUR SUPPLY 1989-2000
	SECONDARY	COMMUNITY COLLEGE	UNIVERSITY	
120	400	125	0	645

OTHER IMPORTANT REQUIREMENTS

New technologies have caused the labour market to shrink somewhat.

2. MAIN CHARACTERISTICS (%)

SEX	1981	1986	ÂGE	1981	1986	STATUS	1981	1986
Females	48.2	46.2	Under 25 years	-	-	Full-time	-	91.8
Males	51.8	53.8	Over 54 years	-	-	Part-time	-	8.2

3. MAIN SECTORS PROVIDING EMPLOYMENT (1986 %)

Misc. Services (35)
- Photography, n.e.c. (35)

Amusement & Recreation Serv. (5)
- Film Prod. and Distr. (5)

Printing and Publishing (27)
- Printing (6)
- Plate-making, Typesetting and Trade Bindery (20)
- Publishing and Printing (1)

- Business Services (3)
- Advertising Services (2)
- Misc. Services (1)

Retail Trade (12)
- Book & Stationery Stores (1)
- Retailers, n.e.c. (11)

4. LABOUR MARKET TRENDS

Employment for photo lab workers is expected to show a negative growth rate. The increase of fast photo developing services has resulted in a restructuring of amateur photography as an activity based on service. The labour market trend is toward photo finishing services using fast developing machines situated on the same premises as film sales outlets. The expansion of photo labs has occurred through increased production capacity and the conquest of new markets with the rise of fast developing services. With the introduction of automatic film development machines, stores no longer need laboratory services. Automatic development and mass printing of photographs should reduce demand for photo lab workers. The tasks of operators at the development stage involve various film handling tasks, such as guiding and feeding films into and adjusting the developing machine and sample quality control. With multi-copy printers which print several sizes of photographs from a single negative, the number of operators is tending to decline. Moreover, these processes should eliminate the manual video which is still being used for professional production. Printing tasks are reduced to the feeding

4. LABOUR MARKET TRENDS (cont'd)

of films into machines and guiding film and paper toward the photo processor. Film-cutting tasks are becoming increasingly automated and are tending to reduce the volume of employment for these workers.

The labour market for photo lab workers has contracted under the impact of technological changes which have brought about a decrease in the labour force and in the qualifications required in the amateur photo developing sector. The trend toward modernization of professional laboratories should continue as a result of increasing competition from the amateur sector. In specialized photo labs, highly qualified and experienced employees are sought. Knowledge of new laser technologies is an asset.

5. EDUCATION AND SKILLS

There are two ways of gaining the training needed to enter this occupational group: the traditional method is on-the-job training and the other consists of taking a program in photography or photo-mechanics in a CEGEP or technological institute.

6. SALARY

According to the 1986 census, the average salary of photo lab workers employed full time was $18,777.

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